












	•••	••••	•••••
X5		37.0x21.1mm	X5 •• , IP67••••, ••••, •••••20(8)A
X7		13.8x30.2mm	X7 •• , IP67••••, ••••, ••••• On-Off-On
RM		custom	RM •• , DPST, 16A •••••, ••••••••••
MR6		13x19mm	MR6-•• , DPST •••••, •••••128A••
MR		13x19mm 19x22mm	MR-•• , DPST, ••••, •••16A(4), 125/250VAC
•		dia. 20mm	MR~R DPST ••••••••, •••16A(4), 125/250VAC
•		6.8x19mm	MR-H ••••••••, •••16A(4), 125/250VAC
R		22x30mm	R-••••• , •••20A 125Vac, 16(4)A~250Vac
•		22x30mm	R-••••• , •••20A 125Vac, 16(4)A~250Vac
MR2		13x19mm	MR2 ••••••••, •••20A 125VAC, TV6
•		26x12mm	MR2-••••• , •••16(8)A 125/250Vac, TV6
•		dia. 20mm	MR2-R ••••••••, 20A 125VAC, 16(8)A~250Vac
MR5		9.2x13.6mm	MR5 UL••••••••, 6A 125Vac, •LED••••••••
•		dia. 15mm	MR5~R UL••••••••, 6A 125Vac, •••••

Rocker

MR3		13x19mm	MR3 , , 13A 125Vac
•		dia. 20mm	MR3~R , , , 13A 125Vac
•		6.8x19mm	MR3-H , 13A 125Vac
HB		13.8x28.9mm	HB-•• , , , , 20A 125VAC
B		13.8x28.9mm	B-•• , , , 15A 125Vac
RH		11x30mm	RH-•• , , ••128A••
SW273		dia.13.3mm	SW-273 , , SPST, DPDT
A		PCB	A-••
MA		PCB	MA-••

•

X5 SERIES

HEAVY DUTY SEALED ROCKER SWITCHES, Multi Circuit, Various Actuator type, UP TO 20(8)A 125/250VAC;16A DC6~30V, SEALED TO IP67



RATING:

- 16(8)A 125/250V, ~ £gT55, ~ £gT85/55, 1E4, 50/60Hz (cURus, ENEC15)
- 20(8)A 125/250V, ~ £gT55, ~ £gT85/55, 1E4, 50/60Hz(cURus, ENEC15)
- 16A DC, 6~30V, £gT55, £gT85/55, 1E4, 50/60Hz (cURus, ENEC15)
- Electrical life:6,000 cycles(cURus), 10,000 cycles (ENEC15)
- Dielectric strength: 1,500 VAC for 1 minute
- Initial contact resistance: 20m Ohms max.
- Insulation resistance: 100M Ohms min, at 500VDC

FEATURES:

- Safety approved internationally by cURus in North America, ENEC15 in Europe (UL61058-1)
- 1, 2 pole circuitry; 2 and 3 positions, maintained and momentary action
- Optional actuator type and marking.
- Environment-proof sealing, confirming to IP67 level
- Quick-connect, solder and screwed terminals
- Panel accessories as optional parts
- Application includes automotive, marine, agriculture machine and more.
- Red, green, blue or other color len windows are available, please consult our sales.

How to Order:

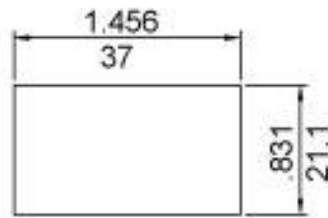
X5 SEALED ROCKER SWITCH

X5	—	2	2	4	A	N	N	—
SERIES SYMBOL	POLE		FUNCTION	TERMINAL	ACTUATOR TYPE	MARKING	MARKING COLOR	
X5 SERIES	1 1 POLE	2 2 POLES	1 ON-OFF 2 ON-ON 3 ON-OFF-ON 4 (ON)-OFF 5 (ON)-ON 6 (ON)-OFF-(ON) 7 (ON)-OFF-ON 8 ON-(OFF)	1 SOLDER 3 SCREW TERMINAL 4 QC 250 (6.3mm)	A-F A, C & D: Hard PC B, E & F: Soft TPR	N NO MARKING ► For marking list, please contact our sales.	N NO MARKING W WHITE	

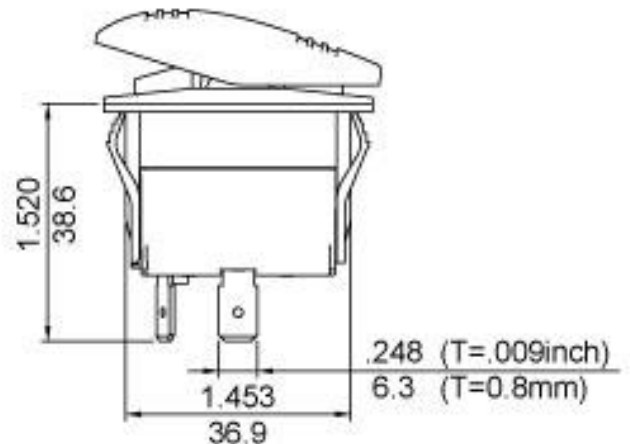
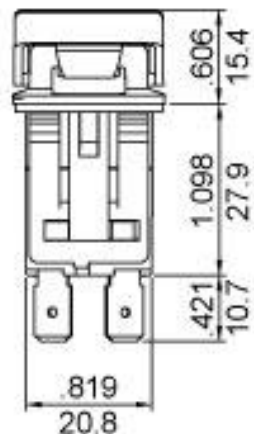
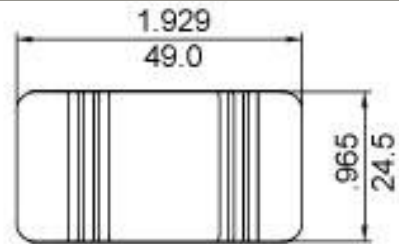
N	A	B	B	—	X
LAMP VOLTAGE	BASE COLOR	ACTUATOR COLOR	RATING & TEMPERATURE		SUFFIXES
N NO LAMP L 100-125VAC G 200-250VAC 1 DC12V 2 DC 24V	A GRAY (STD.) B BLACK	A GRAY B BLACK (STD.)	A 16(8)A 125/250VAC ~μT55 B 20(8)A 125/250VAC ~μT55 (STD.) D 16A 6-30VDC μT55 ► μT85/55 available for On-Off-On; please contact our sales for details.		BLANK NUMBER OR LETTER ► For illuminated type, please advise lamp color



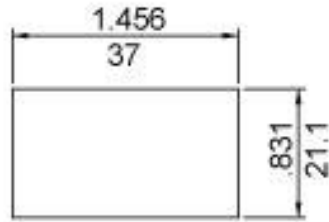
X5-264ENN-1ABD-7F



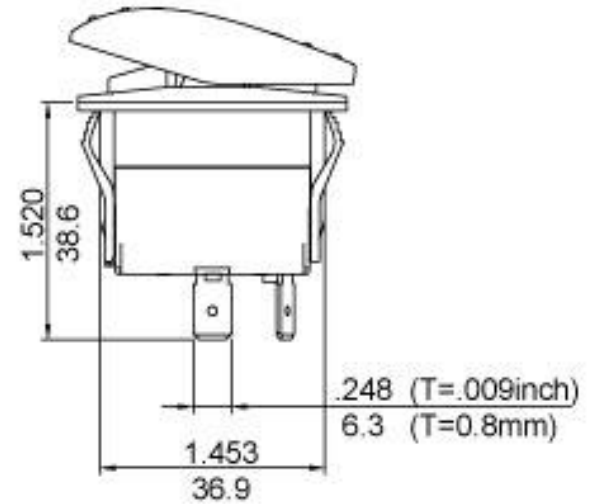
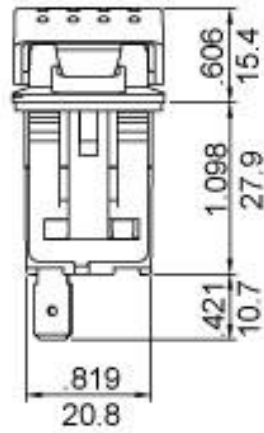
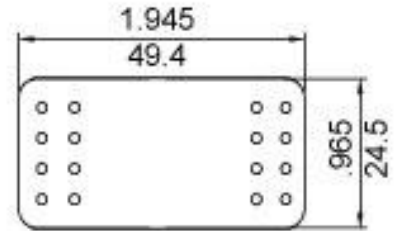
Panel Cutout



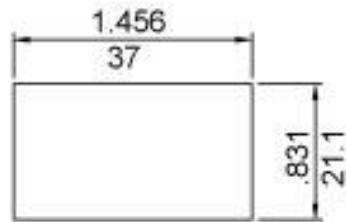
X5-214CNN-NABB-1



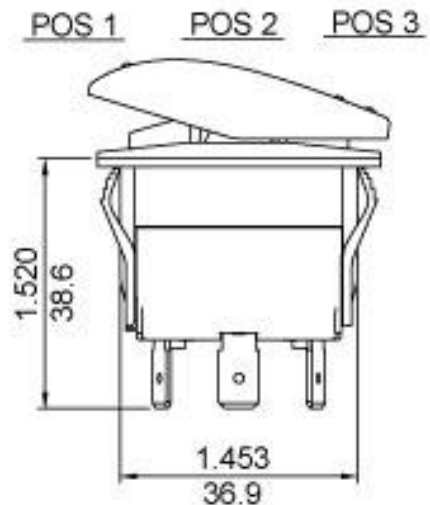
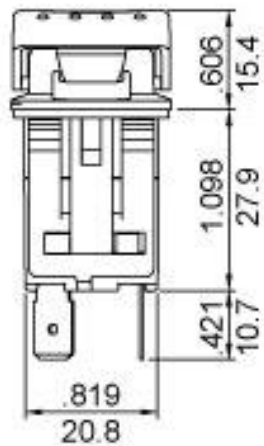
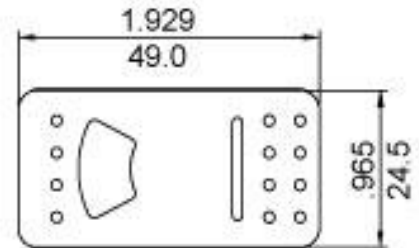
Panel Cutout



X5-114BNN-NABB-1



Panel Cutout



20.8

1.400
36.9

X5-214ENN-1ABD-2



X5-154ENN-DABD-1R
E-1 SOFT TPR
Red LED, 12V

X5-134BNN-NABB-1
B-1 SOFT TPR

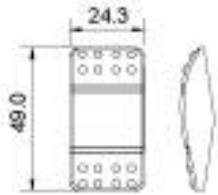
X5-214CNN-1ABD-2R
C-2 HARD PC
Red LED, 12V

X5-264ANN-NABB-1
A-1 HARD PAC

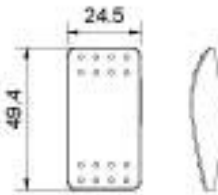
X5-214ANN-DABD-3H1
A-3 HARD PC
Red/Amber LED, 12V

ACTUATOR TYPE

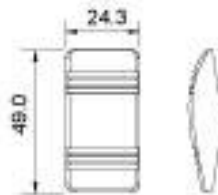
A type
hard PC



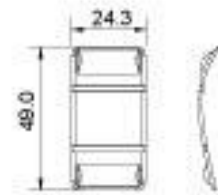
B type
soft TPR



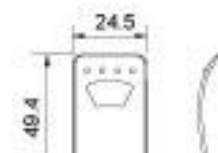
C type
hard PC



D type
hard PC



E type
soft TPR

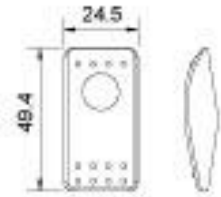


X5 SEALED ROCKER SWITCH

E type
soft TPR



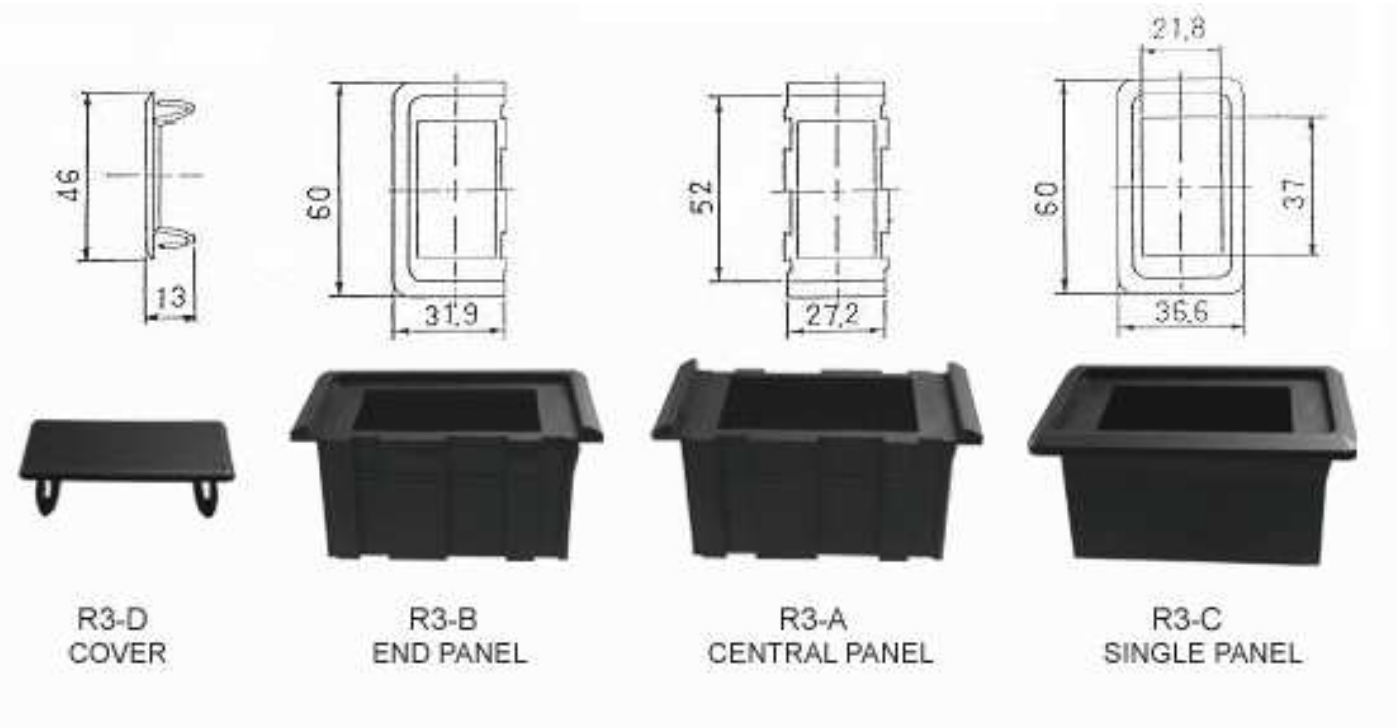
F type
soft TPR



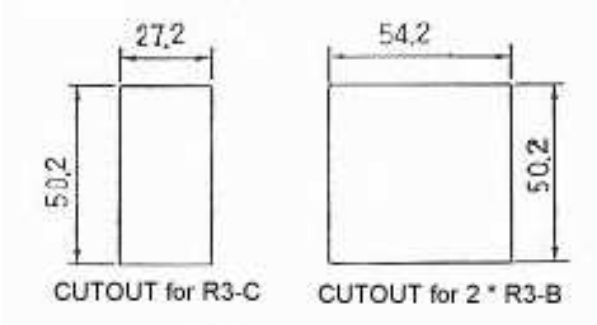
ACCESSORIES:

i@

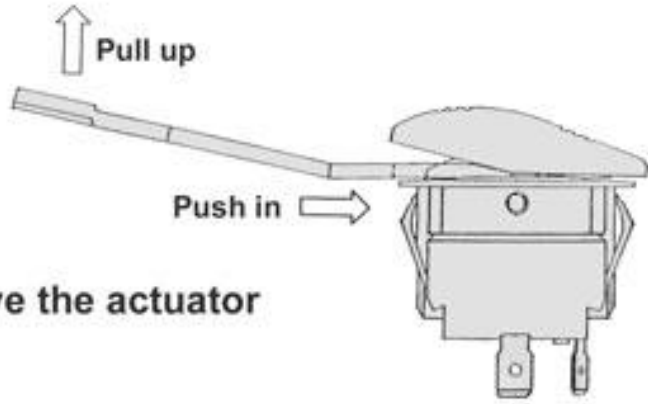
FOR PANEL MOUNTING



MOUNTING PANEL CUTOUT:

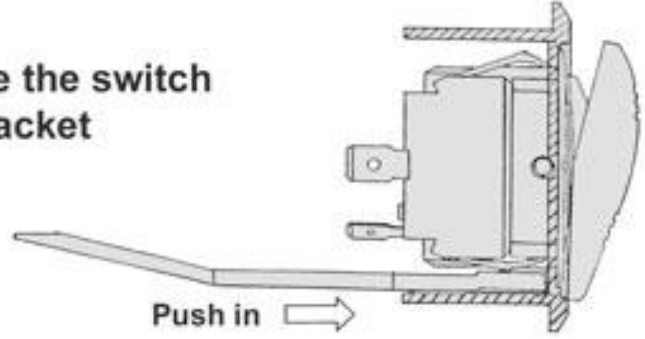


9200 ACTUATOR REMOVAL TOOL



(1) Remove the actuator

(2) Remove the switch from bracket



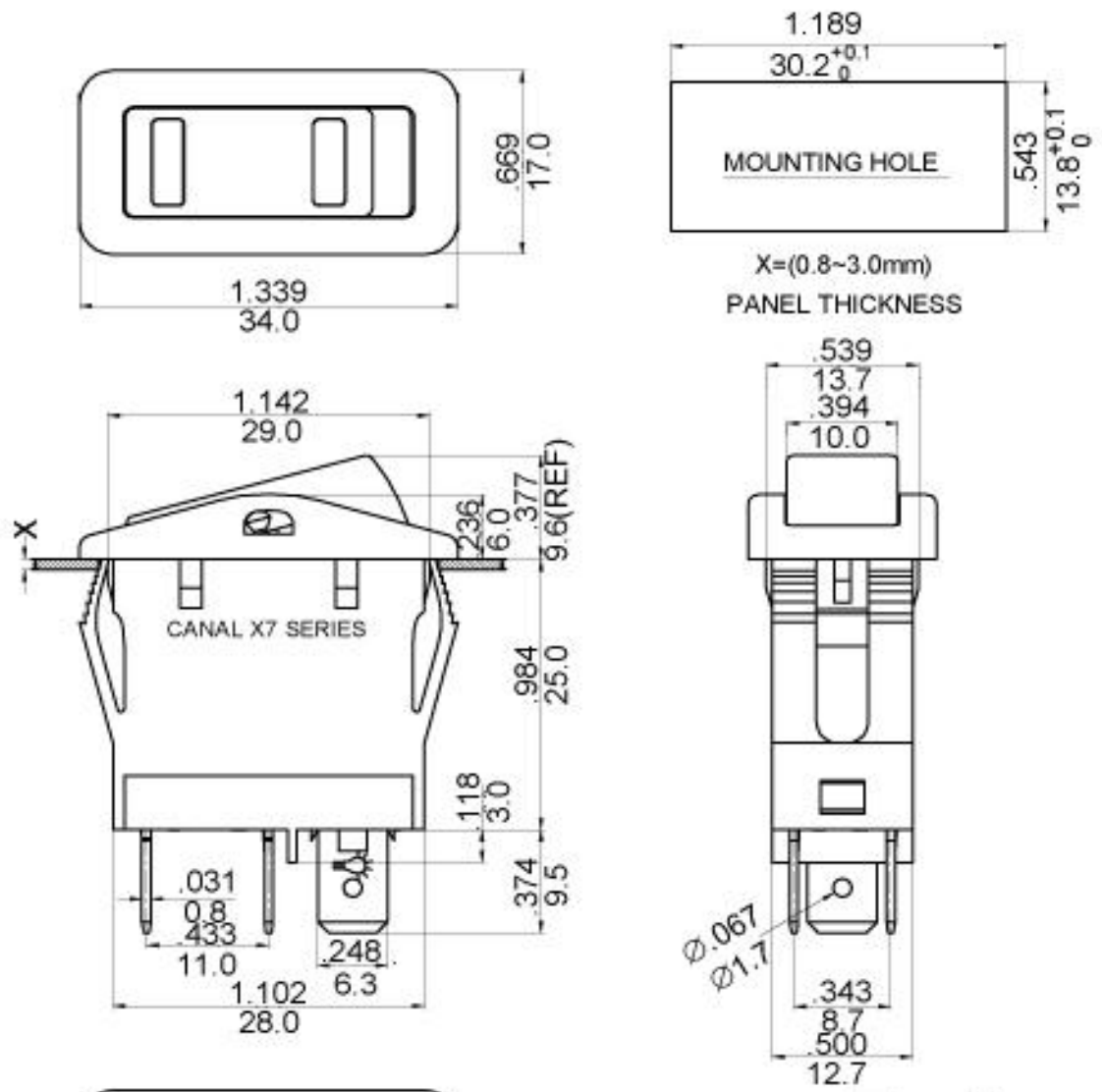
X7-series Rocker Switches, Sealed to IP67 protection, Double LEDs, ON-ON, or ON-OFF-ON

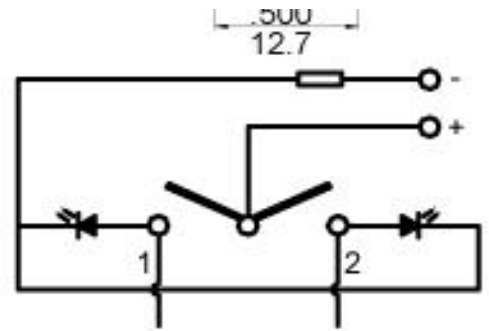
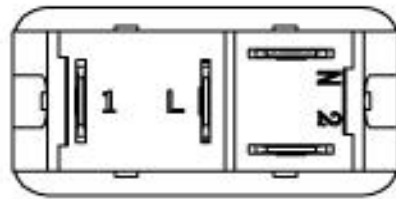


- 16A 125/250VAC; 20A 125VAC
 - 16(4) 250V~•T125/55 16A 6~30VDC
 - Dielectric strength : 1,000VAC for 1 min.
 - Insulation resistance : 100M ohm MIN. at 500VDC
 - Initial contact resistance : 20m ohm MAX
 - Electrical life : 10,000 cycles
- ON-OFF-ON, ON-ON available
 - Two LEDs for custom color selection
 - quick connecting terminals
 - Plastic housing and actuator
 - Sealed to protection level IP67
 - Suitable for outdoor application



X7-130FNNL-BBB-12PC

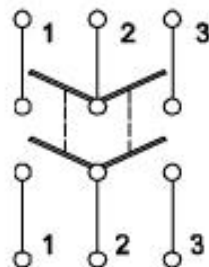
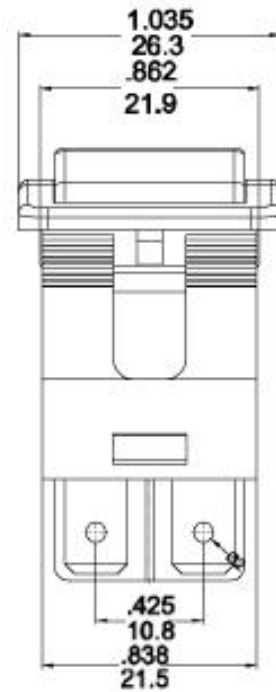
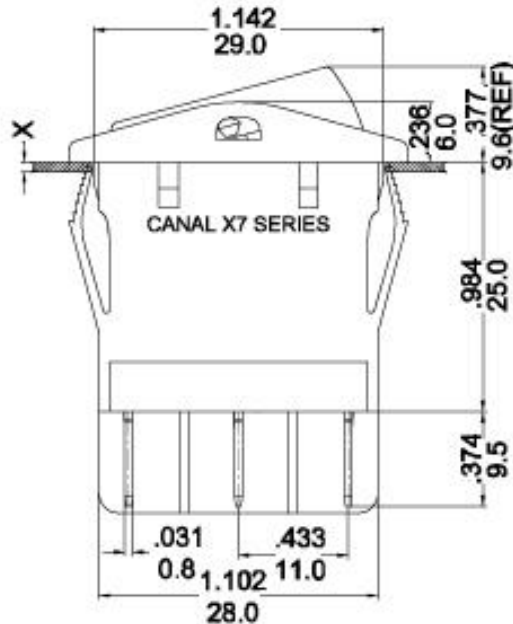
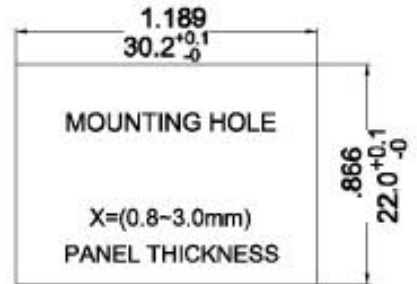
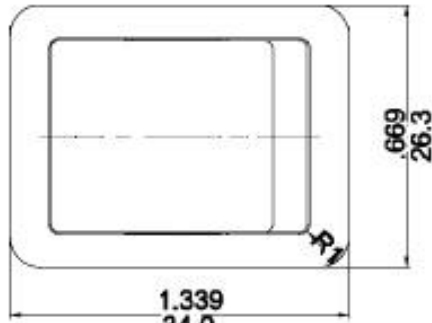




SWITCHING CIRCUIT



X7-230FNNN-WWB-1NPC



SWITCHING CIRCUIT

RM Mini Rocker Switches, Fitted with Rotating Arm Actuator for Custom Design



Rating:

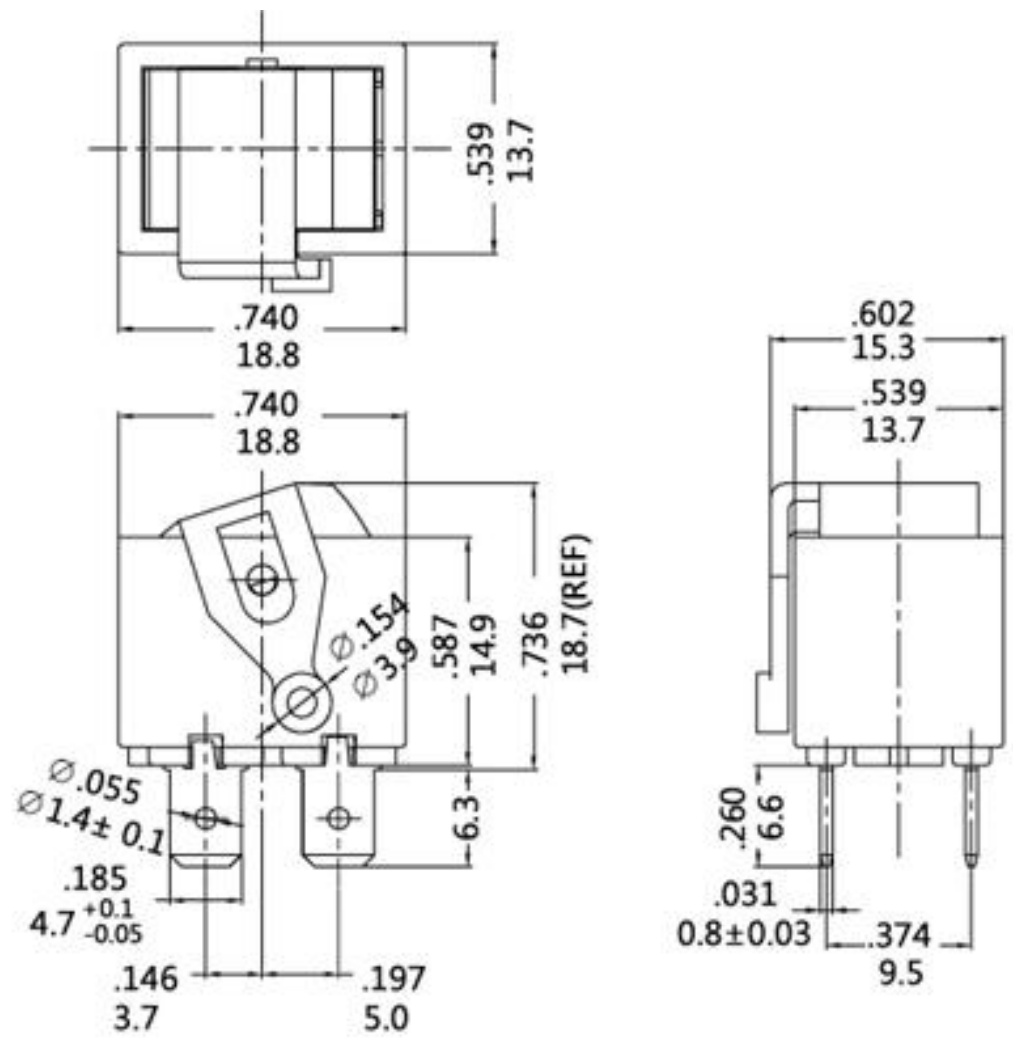
- 16(4)A, 125/250VAC~T125/55
- DPST or SPST
- Initial contact resistance : 20m ohm (max.)
- Insulation resistance : 100M ohm (min,) at 500VDC
- Dielectric strength : 1,000VAC for 1 minute
- Electrical life : 10,000 cycles

Features

- Plastic ring fitting custom design actuation
- Soldering, .187 quick connecting and PCB terminals
- Plastic housing and actuator



RM-210C2N-NBB1



MR6 SERIES

DOUBLE POLE ROCKER SWITCHES UP TO **20A** 125VAC

Soldering, quick connecting terminals



Snap-in Panel Cutout
X=Panel Thickness







X	Dim.Y	Dim.Z
0.75 to 1.25mm	19.2 + 0 / -0.1	12.9 + 0.15 / - 0
1.25 to 2 mm	19.4 + 0 / -0.1	12.9 + 0.15 / - 0
2 to 3 mm	19.8 + 0 / -0.1	12.9 + 0.15 / - 0



- UL61058-1 (cURus , ENEC15)
12(4)A 125/250V ~T55, T125/55 6E3, 1E4
16(8)A 125/250V ~T55, T125/55 6E3, 1E4
16A 6~30VDC, ~T55, T125/55 6E3, 1E4
8[128]A 250V~ T55, 1E4
TV-10 /125V~T55, 25E3
- UL1054 approved: (cURus)
20A 125VAC, 16A 250VAC 6E3
TV-10 /125VAC 25E3
- Initial contact resistance : 20m ohm (max.)
- Insulation resistance : 100M ohm (min,) at 500VDC
- Dielectric strength : 1,500VAC for 1 minute

- Safety approved internationally by cURus in North America, ENEC15 in Europe
- Standard 12.9x19.2mm snap-in cutout size
- DPST, SPST circuitry
- With or without illuminated type
- Complete terminals options quick-connect, solder and PCB pins
- Waterproof cover boot as optional accessory
- Patent Pending

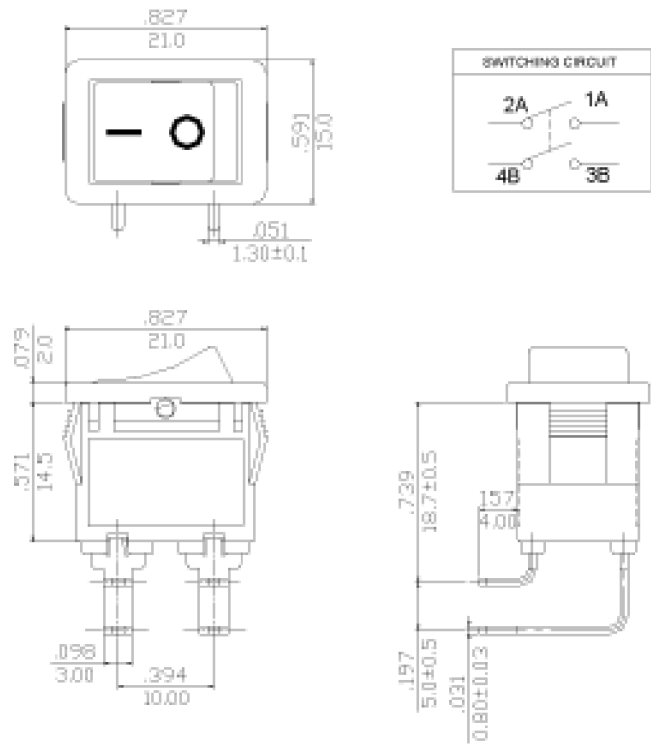
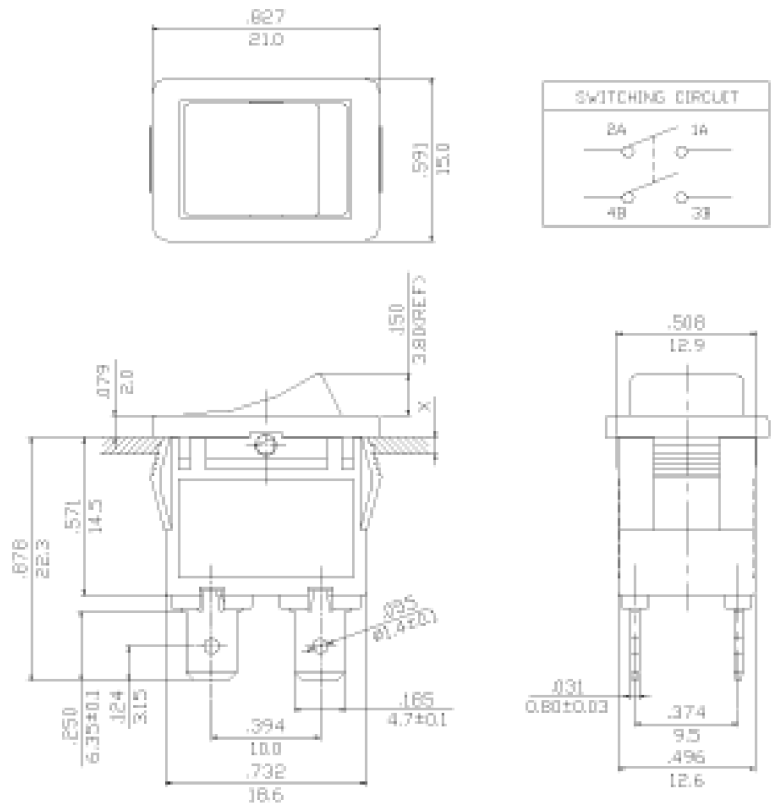
How to order

MR6	2	1	0	C	5
SERIES SYMBOL	POLE	FUNCTION	TERMINAL TYPE	ACTUATOR TYPE	MARKING TYPE
MR6 SERIES	1 SINGLE POLE 2 DOUBLE POLE	1 ON-OFF	0 QUICK CONNECT 1 SOLDER 2 PC TERMINALS	C CURVE	1  2 NO MARKING 3  4  5  6  9 

W	N	B	B	B	X
MARKING COLOR	ILLUMINATED TYPE	BASE COLOR	ACTUATOR COLOR	RATING TEMPERATURE	SUFFIXES
N NO B BLACK W WHITE R RED	N NON-LAMP L ILLUMINATED 100-125VAC G ILLUMINATED 200-250VAC 1 TUNGSTEN BULB DC30V	B BLACK W WHITE A GRAY	B BLACK W WHITE A GRAY O ORANGE G GREEN R RED <i>* More options please contact our sales.</i>	A 12(4)A 125/250VAC T55 B 16(8)A 125/250VAC T55 (Std.) D 16A (6-30VDC) T55 E TV-10 125VAC T55 (non-lamp type) F 8[128]A 250VAC T55 (non-lamp type) 1 12(4)A 125/250VAC T125/55 2 16(8)A 125/250VAC T125/55 4 16A (6-30VDC) T125/55	BLANK OR LETTER/NUMBER



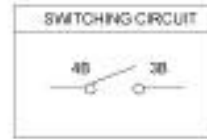
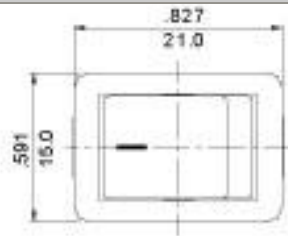
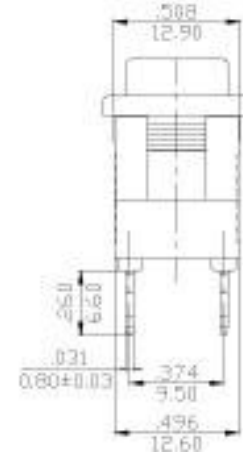
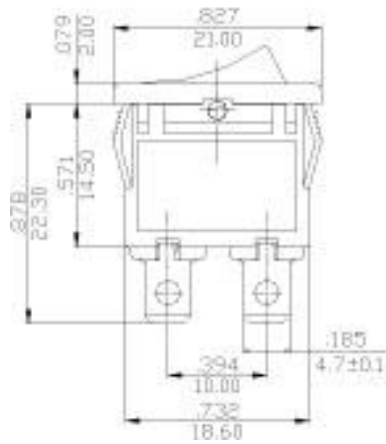
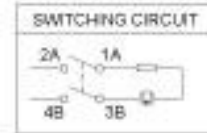
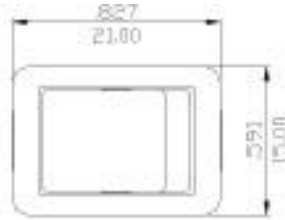
MR6-210C2N-NBBB-1AN



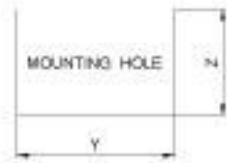
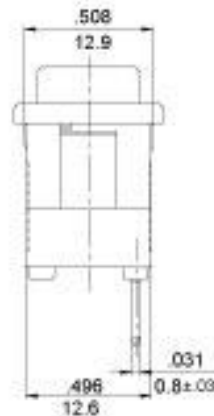
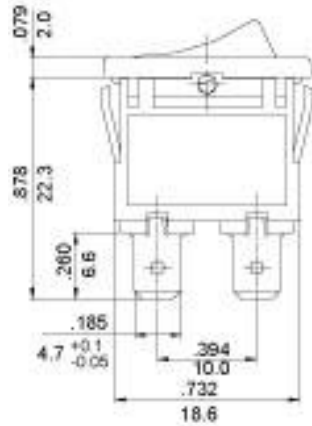
MR6-212C5W-NBBB-1AN



MR6-211C2N-LB*B-1AN



MR6-110C9W-NBBE-1CN



X(PANEL THICKNESS)	Y(CUTOUT DIMENSION)	Z(CUTOUT DIMENSION)
0.5-0.8mm	18.6 ^{+0.1} mm	12.9 ^{+0.15} mm

PANEL CUTOUT DIMENSION TABLE

MR SERIES

DOUBLE POLE MINI-ROCKER SWITCHES UP TO 12A 125VAC
SPST, DPST, Illuminated or non-illuminated, Soft outlook



Snap-in Panel Cutout
X=Panel Thickness

X	Dim.Y	Dim.Z
0.75 to 1.25mm	19.2 + 0 / -0.1	12.9 + 0.15 / - 0
1.25 to 2 mm	19.4 + 0 / -0.1	12.9 + 0.15 / - 0
2 to 3 mm	19.8 + 0 / -0.1	12.9 + 0.15 / - 0



RATING

- UL61058-1 approved non-illuminated type: (cURus , ENEC15)
10(4)A 125/250V ~T55, T125/55 6E3, 1E4
16(4)A 125/250V ~T55, T125/55 6E3, 1E4
- UL61058-1 approved illuminated type: (cURus , ENEC15)
12(4)A 125/250V, ~T55 1E4
12RA 30VDC MAX T55 1E4
- UL1054 approved: (cURus)
10A 125VAC, 8A 250VAC 1/4HP
- VDE, ENEC10, CQC (GB15092.1/ GB8898)
10(4)A 250V, ~T125/55 1E4
- KC (Korea)
10(4)A 250V , 1E4 (for specific model)
- Initial contact resistance : 20m ohm MAX.
- Insulation resistance : 100M ohm MIN. at 500VDC

- Dielectric strength : 1,500VAC for 1 minute
- Electrical life : 6,000 & 10,000 cycles

FEATURES

- Safety approved internationally by cURus in North America, VDE& ENEC10 or ENEC15 in Europe, CQC& KC in Asia
- Standard 13x19mm and half body
- DPST, SPST circuitry
- Complete terminals options quick-connect, solder and PCB pins
- Spec of IEC60335-1 glow wire test 750 degree C <=2 Sec. for option.
- Built in with optional neon lamp, DC fluorescent lamp upon request
- Waterproof cover boot as optional accessory

How to order (UL61058-1)

MR	2	1	1	C	5	W
SERIES SYMBOL	POLE	FUNCTION	TERMINAL TYPE	ACTUATOR TYPE	MARKING TYPE	MARKING COLOR
MR SERIES	1 SINGLE POLE 2 DOUBLE POLE H HALF BODY POLE	1 ON-OFF	0 QUICK CONNECT 1 SOLDER 2 PC TERMINALS	C CURVE	1 HI LO 2 NO MARKING 3 ON OFF 4 ○ 5 ○ —	N NO B BLACK W WHITE R RED

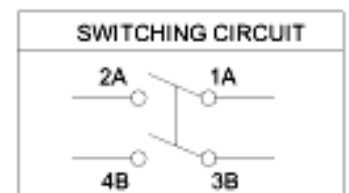
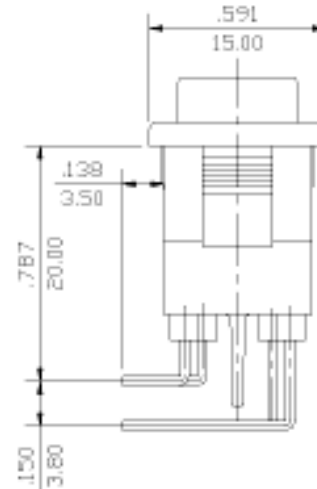
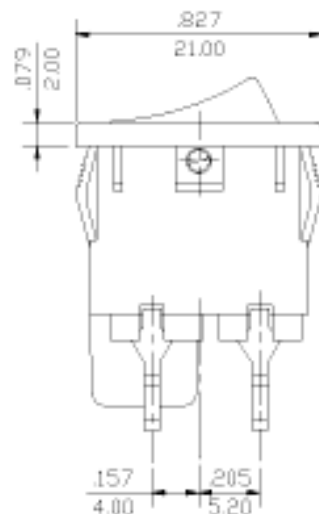
L	B	R	A	X
ILLUMINATED TYPE	BASE COLOR	ACTUATOR COLOR	RATING TEMPERATURE	SUFFIXES
N NON LAMP L ILLUMINATED 100-125VAC G ILLUMINATED 200-250VAC P PC ACTUATOR NON-LIGHTED 1 TUNGSTEN BULB DC12V	B BLACK W WHITE A GRAY	B BLACK W WHITE A GRAY * O ORANGE * G GREEN * R RED	A 10(4)A 125/250VAC T55 B 12(4)A 125/250VAC T55 C 16(4)A 125/250VAC T55 D 16A (6-30VDC) T55 1 10(4)A 125/250VAC T125/55 2 12(4)A 125/250VAC T125/55 3 16(4)A 125/250VAC T125/55 4 16A (6-30VDC) T125/55 <i>* Standard: Rating B</i>	BLANK OR LETTER/NUMBER (CUSTOM CODE)

Note:

1. "*" can apply to PC material
2. The products options may be too many to be listed fully above, kindly consult our sales directly for more information.
3. This tree is based on standard UL61058-1

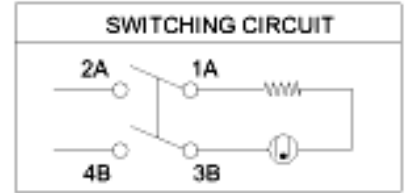
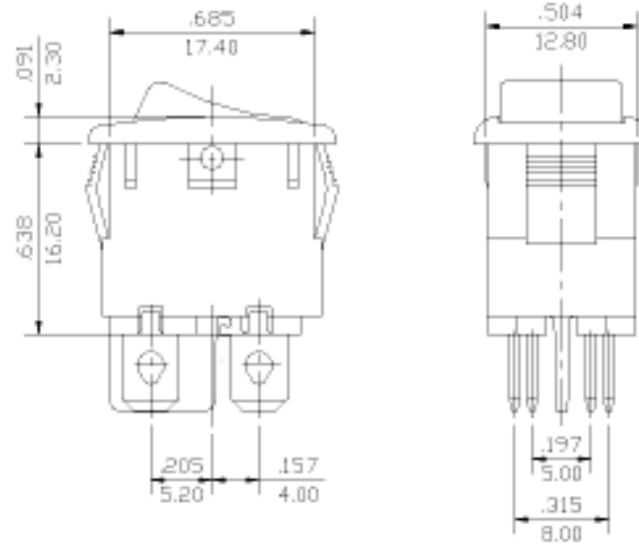


MR-212C5W-NBBB-B2N

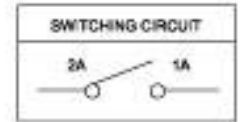
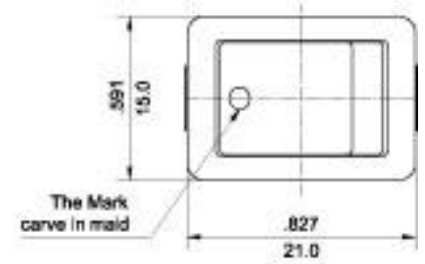
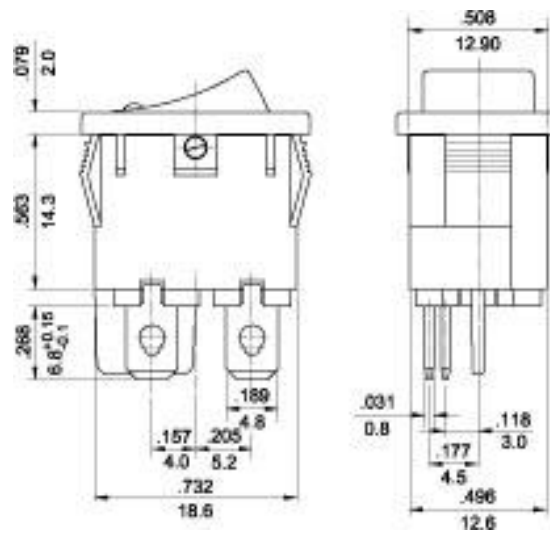




MR-211C2N-LBRB-1LN



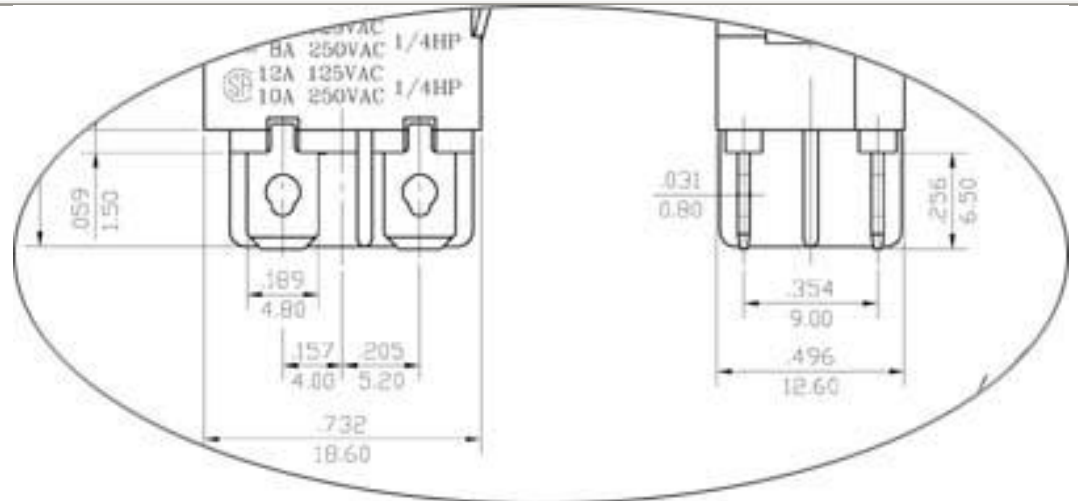
MR-111C6N-NBBB-22N



i@

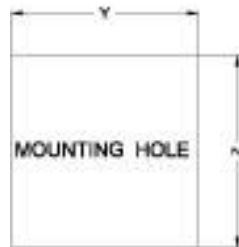
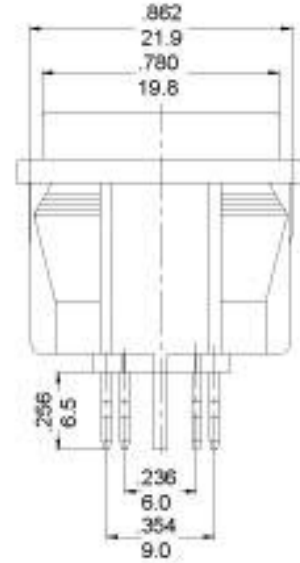
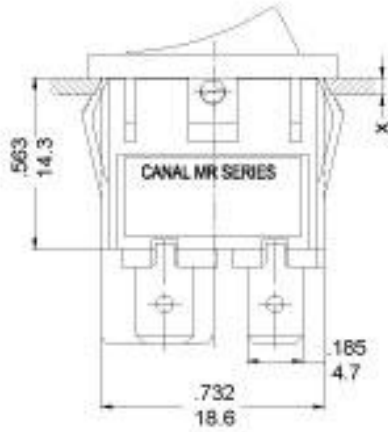
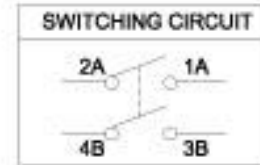
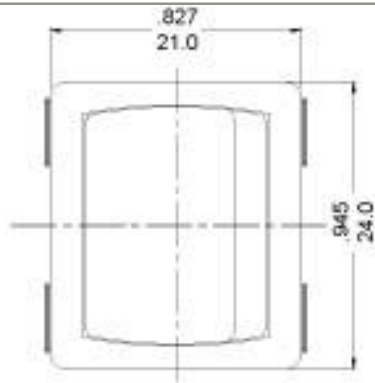


MR-211C2N-NBBB-13N with "Cross" insulation barrier





MR-210C2N-NBBB-1TN
PATENT PENDING!



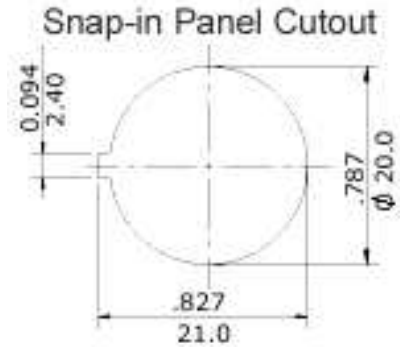
X= PANEL THICKNESS	Y	Z
0.8~1.2mm	19.2 ⁺⁰ _{-0.1} mm	21.9 ⁺⁰ _{-0.1} mm
1.3~2.0mm	19.4 ⁺⁰ _{-0.1} mm	21.9 ⁺⁰ _{-0.1} mm
2.1~3.0mm	19.8 ⁺⁰ _{-0.1} mm	21.9 ⁺⁰ _{-0.1} mm

PANEL CUTOUT DIMENSION TABLE

MR-R SERIES

DOUBLE POLE ROUND MINI-ROCKER SWITCHES UP TO 12A 125VAC

Illuminated, non-illuminated



DPST or SPST circuit, 4, 3, or 2 terminals, unique design

i@



RATING

- UL61058-1 approved non-illuminated type: (cURus , ENEC15)
10(4)A 125/250V ~T55, T125/55 6E3, 1E4
16(4)A 125/250V ~T55, T125/55 6E3, 1E4
- UL61058-1 approved illuminated type: (cURus , ENEC15)
12(4)A 125/250V~T55 1E4
12RA 30VDC MAX T55 1E4
- UL1054 approved: (cURus)
10A 125VAC, 8A 250VAC 1/4HP
- VDE, ENEC10, CQC (GB15092.1/ GB8898)
10(4)A 250V~T125/55 1E4
- KC (Korea)
10(4)A 250V , 1E4 (for specific model)
- Initial contact resistance : 20m ohm MAX.
- Insulation resistance : 100M ohm MIN. at 500VDC

- Dielectric strength : 1,500VAC for 1 minute
- Electrical life : 6,000 & 10,000 cycles





i@

FEATURES

- Safety approved internationally by cURus in North America, VDE& ENEC10 or ENEC15 in Europe, CQC& KC in Asia
- Standard DIA.20mm panel cutout
- DPST, SPST circuitry
- Complete terminals options quick-connect, solder and PCB pins
- Spec of IEC60335-1 glow wire test 750 degree C <=2 Sec. for option.
- Built in with optional neon lamp, DC fluorescent lamp upon request
- Waterproof cover boot as optional accessory

i@

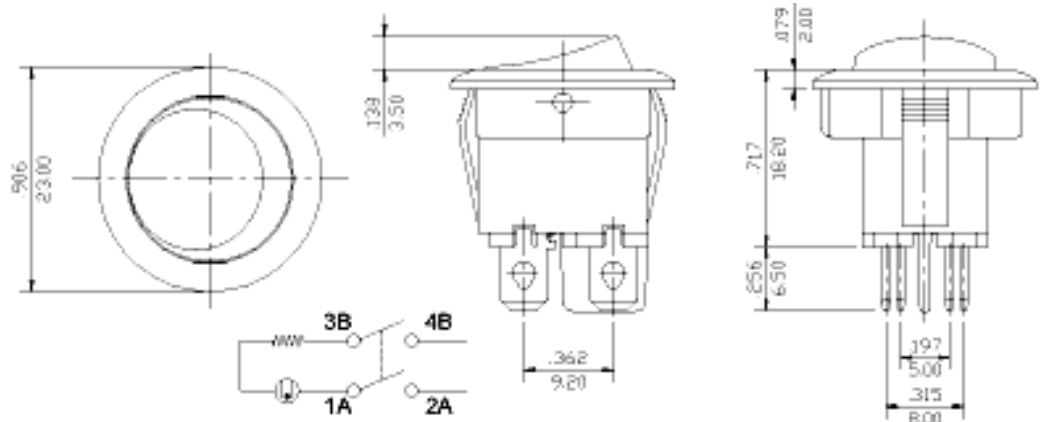
How to order

MR	2	1	1	R	5
SERIES SYMBOL	POLE	FUNCTION	TERMINAL TYPE	ACTUATOR TYPE	MARKING TYPE
MR SERIES	1 SINGLE POLE 2 DOUBLE POLE	1 ON-OFF	0 QUICK CONNECT 1 SOLDER 2 PC TERMINALS	R ROUND	1  2 NO MARKING 3  4  5 

W	L	B	R	B	X
MARKING COLOR	ILLUMINATED TYPE	BASE COLOR	ACTUATOR COLOR	RATING TEMPERATURE	SUFFIXES
N NO B BLACK W WHITE R RED	N NON LAMP L ILLUMINATED 100-125VAC G ILLUMINATED 200-250VAC P PC ACTUATOR NON-LIGHTED 1 TUNGSTEN BULB DC12V	B BLACK W WHITE A GRAY	B BLACK W WHITE A GRAY O ORANGE G GREEN R RED	A 10(4)A 125/250VAC T55 B 12(4)A 125/250VAC T55 C 16(4)A 125/250VAC T55 D 16A (6-30VDC) T55 1 10(4)A 125/250VAC T125/55 2 12(4)A 125/250VAC T125/55 3 16(4)A 125/250VAC T125/55 4 16A (6-30VDC) T125/55	BLANK OR LETTER/NUMBER

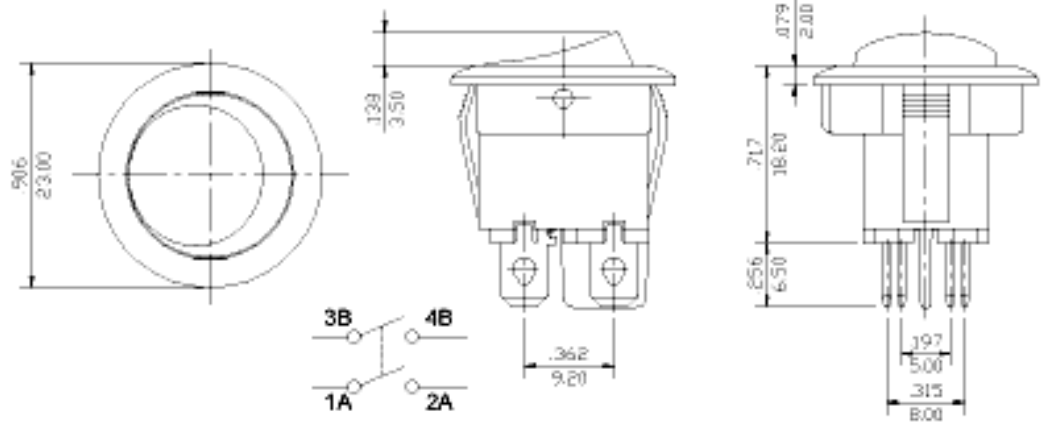


MR211-R5W-LBOB-12N

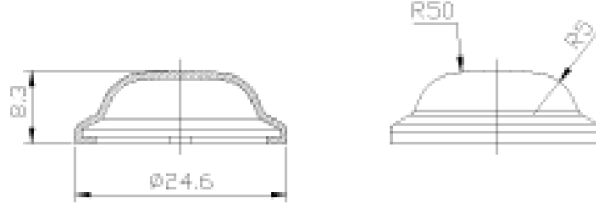




MR211-R2N-NBBB-12N



WATERPROOF
COVER



MR-H~ SERIES

SMALL MINI-SIZED ROCKER SWITCHES UP TO 12A 125VAC

Non-illuminated, quick connect, PCB or soldering terminals



Snap-in Panel Cutout
X=Panel Thickness

X	Dim.Y	Dim.Z
0.75 to 1.25mm	19.2 + 0 / -0.1	6.65 ~ 6.75
1.25 to 2 mm	19.4 + 0 / -0.1	6.65 ~ 6.75
2 to 3 mm	19.8 + 0 / -0.1	6.65 ~ 6.75

Ultra small, half sized of 13x19mm

i@







RATING

- UL61058-1 approved non-illuminated type: (cURus , ENEC15)
10(4)A 125/250V ~T55, T125/55 6E3, 1E4
16(4)A 125/250V ~T55, T125/55 6E3, 1E4
- UL1054 approved: (cURus)
10A 125VAC, 8A 250VAC 1/4HP
- VDE, ENEC10, CQC (GB15092.1/ GB8898)
10(4)A 250V~T125/55 1E4
- KC (Korea)
10(4)A 250V , 1E4 (for specific model)
- Initial contact resistance : 20m ohm MAX.
- Insulation resistance : 100M ohm MIN. at 500VDC
- Dielectric strength : 1,500VAC for 1 minute
- Electrical life : 6,000 & 10,000 cycles

FEATURES

- Safety approved internationally by cURus in North America, VDE& ENEC10 or ENEC15 in Europe, CQC& KC in Asia
- half body size panel cutout 19*6.8mm
- SPST circuitry
- Complete terminals options quick-connect, solder and PCB pins
- Spec of IEC60335-1 glow wire test 750 degree C <=2 Sec. for option.
- Waterproof cover boot as optional accessory

How to order (UL61058-1 part number)

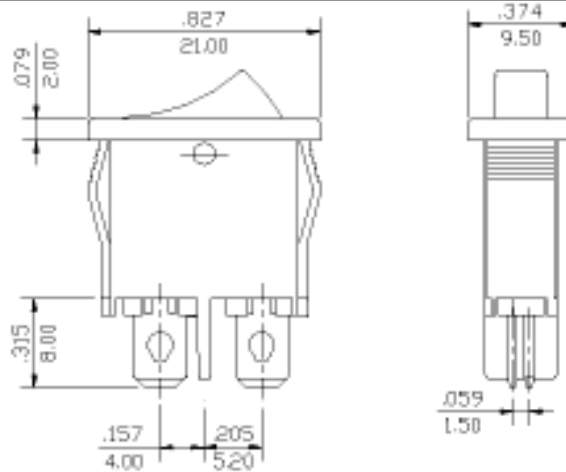
MR	H	1	1	C	5
SERIES SYMBOL	POLE	FUNCTION	TERMINAL TYPE	ACTUATOR TYPE	MARKING TYPE
MR SERIES	H HALF BODY POLE	1 ON-OFF	0 QUICK CONNECT 1 SOLDER 2 PC TERMINALS	C CURVE	1  2 NO MARKING 3  4  5 

W	N	B	B	B	X
MARKING COLOR	ILLUMINATED TYPE	BASE COLOR	ACTUATOR COLOR	RATING TEMPERATURE	SUFFIXES
N NO B BLACK W WHITE R RED	N NON LAMP	B BLACK W WHITE A GRAY	B BLACK W WHITE A GRAY O ORANGE G GREEN R RED	A 10(4)A 125/250VAC T55 B 12(4)A 125/250VAC T55 C 16(4)A 125/250VAC T55 D 16A (6~30VDC) T55 1 10(4)A 125/250VAC T125/55 2 12(4)A 125/250VAC T125/55 3 16(4)A 125/250VAC T125/55 4 16A (6~30VDC) T125/55	BLANK OR LETTER/NUMBER



MR-H11-C8W-NBYB-1FN

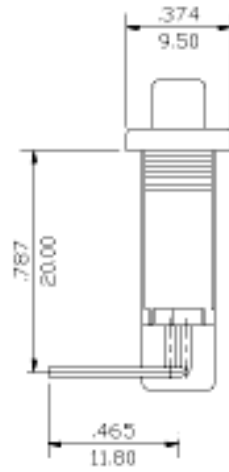
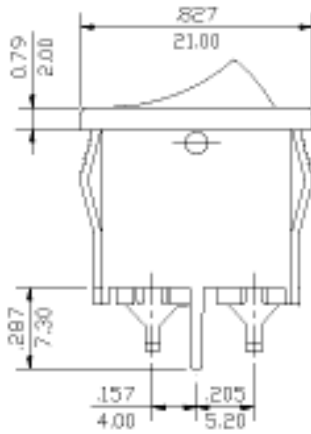
i@





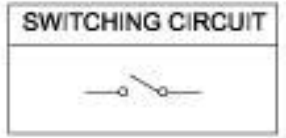
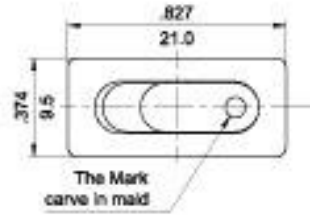
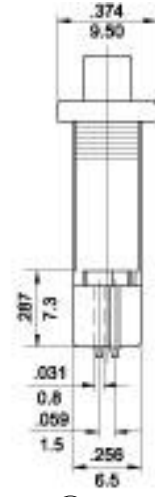
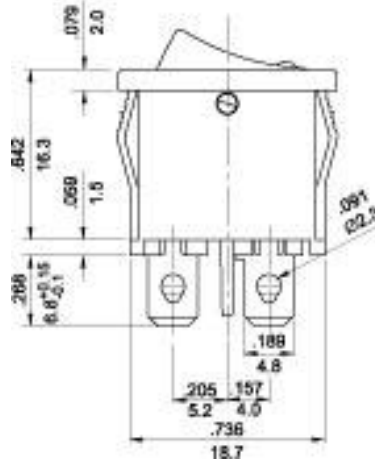
MR-H12-C5W-NBBB-CFN

i@



MR-H11-C6N-NBBB-1FN

i@



R SERIES

DOUBLE POLE ROCKER SWITCHES UP TO 20A 125VAC
illuminated or non-lighted, splash-proof cover

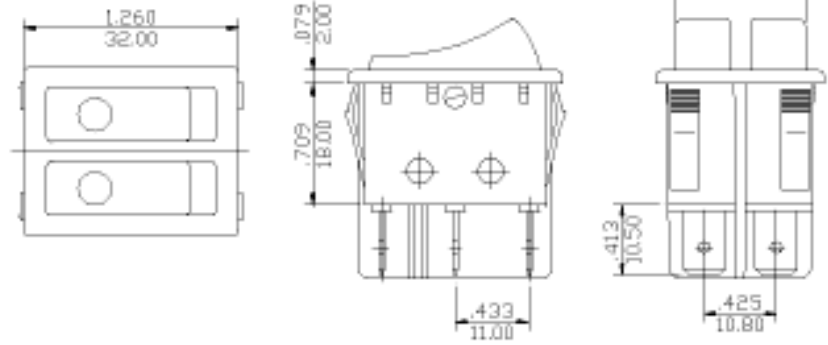


- Two positions:
 - 20A 125VAC (cURus, optional)
 - 3/4HP 250VAC (cURus, optional)
 - 16A 125/250VAC, 1/4HP 125/250VAC (cURus)
 - 10(2)A~250VAC T125/55, 16(4)A~250VAC T125/55 (VDE & ENEC10, CQC)
- Three positions:
 - 16A 125/250VAC (UL, CUL)
 - 16(4)A~250VAC • T85/55 (VDE ENEC, CQC)
- Initial contact resistance : 20m ohm max.
- Insulation resistance : 100M ohm min, at 500VDC
- Dielectric strength : 1,000 VAC(UL), 3000VAC(VDE)for 1 minute
- Electrical life: 6000(UL); 10000(VDE) cycles
- Safety approved internationally by cURus in North America, VDE& ENEC10 in Europe, CQC in Asia
- Standard 22x30mm snap-in cutout size
- SPST, SPDT, DPST, DPDT
- Quick-connect, solder and screw and PC terminals
- Meeting IEC60335-1 glow wire test 750°C •2Sec.(optional); cURus 65°C, 105°C(105°C for two positions only)
- Built in with optional neon lamp, DC tungsten lamp upon request
- Waterproof cover boot, Protected guard as optional accessory
- One, dual and three actuator options
- UL61058-1 approval available (optional)

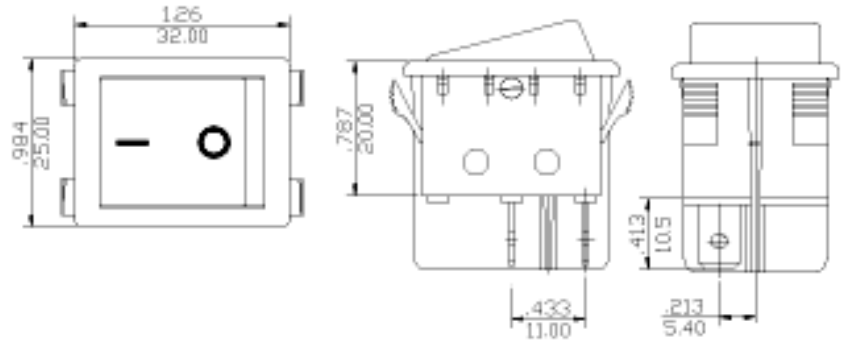
[How to order](#)



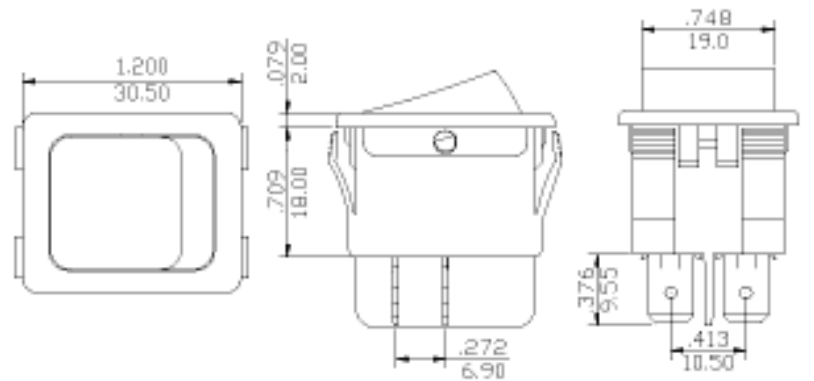
R210-2-CRC-BBN, LED light effect, twin
rocker



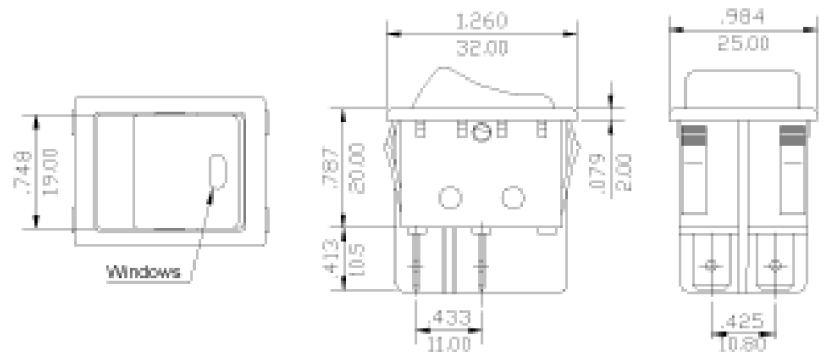
R110-1FCN-BBN-NN, "I O" mark in-
molded



R110-1F2N-BB5-NN, 22x28mm mounting

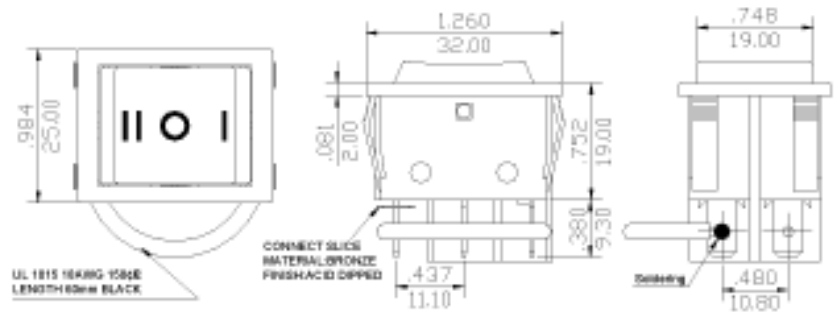


R210-112L-BB1-NN, LED-effect Len
lighted

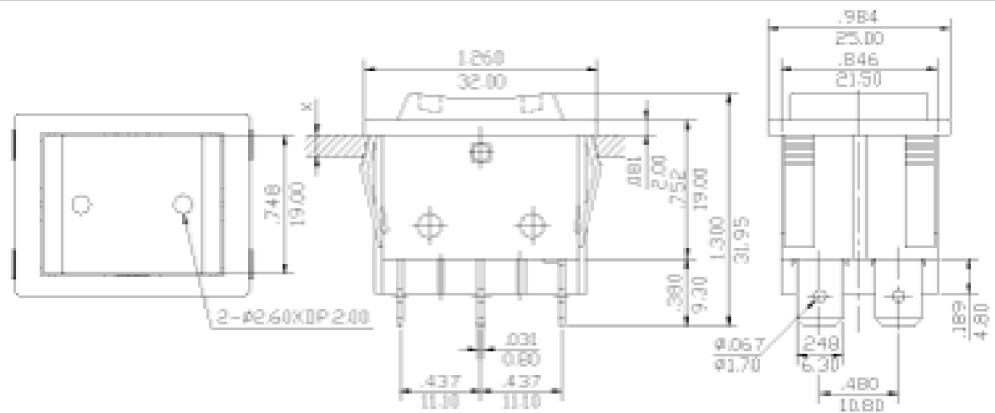




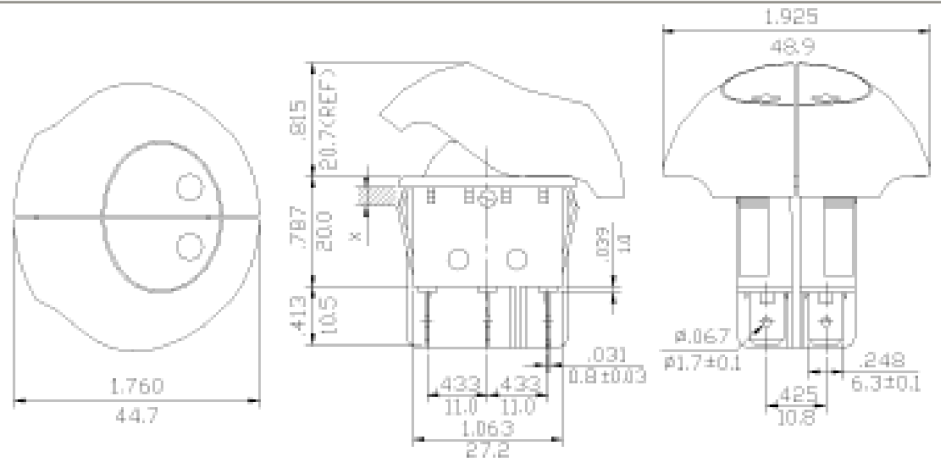
R237-1C6N-BBA-NN



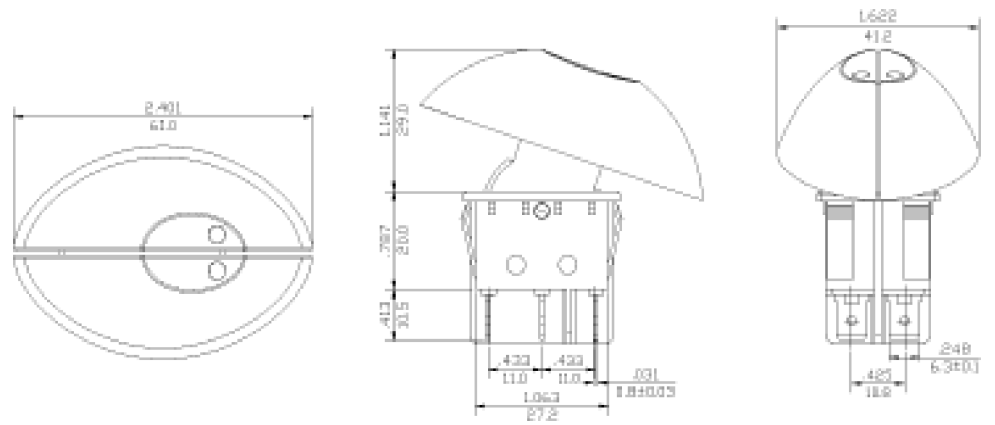
R270-0C2N-BB7-N



R210-5C2L-BBR-NC

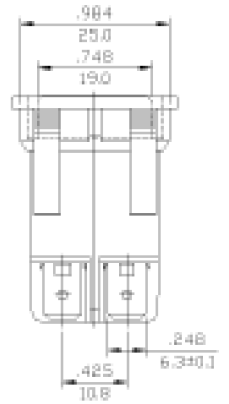
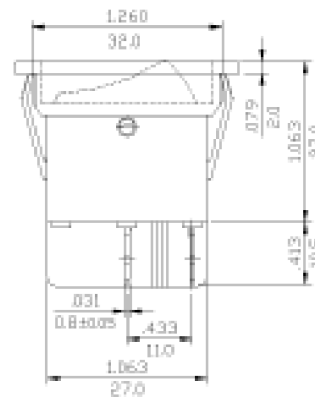
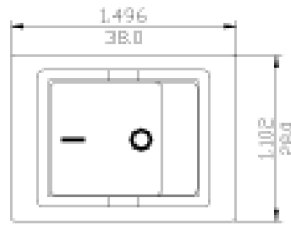


R210-6C2L-BWR-NC

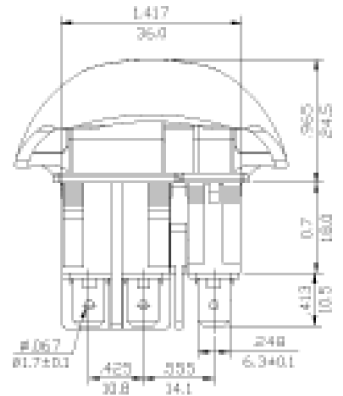
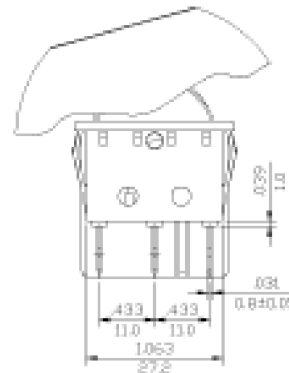
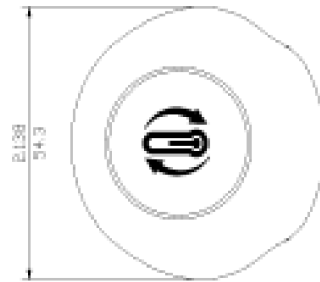




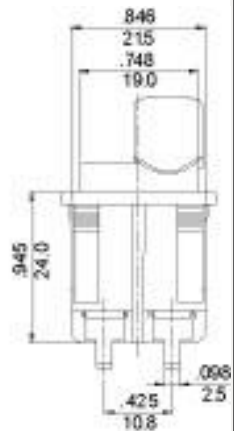
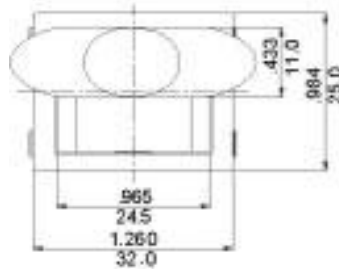
R210-1C5G-BBT-NC



R220-7C9N-BW-B



R274-1C2N-BBA-NNE



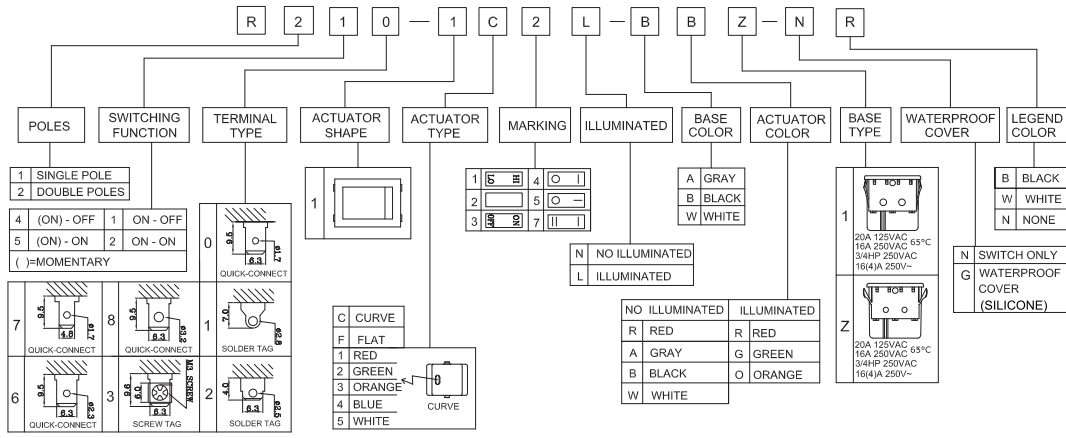
Optional protection guard



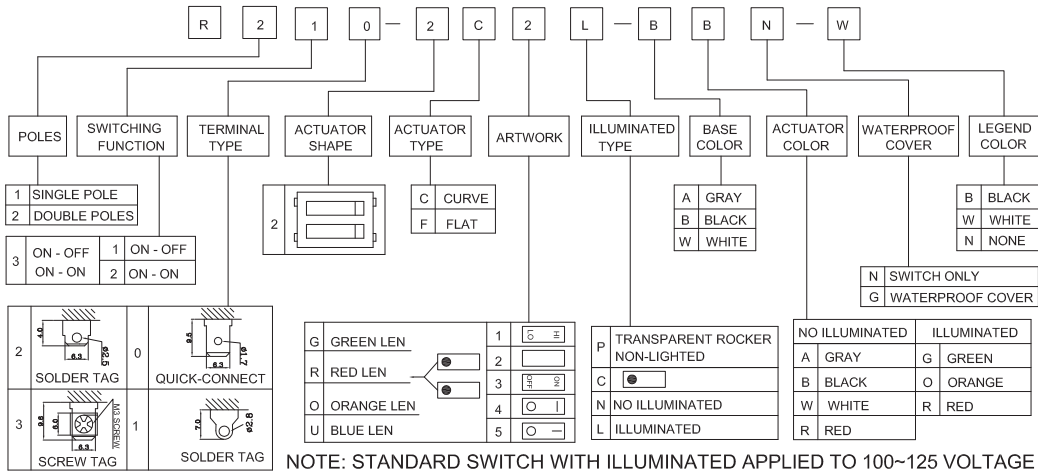
Optional splash shield

*Anti-UV Cover upon request

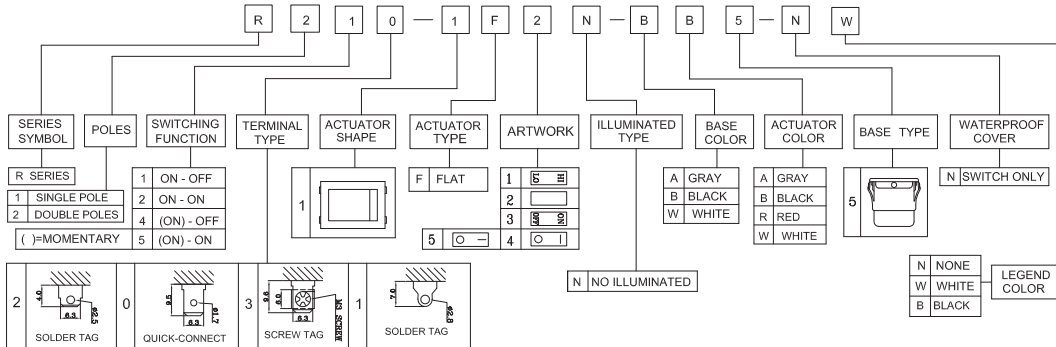
R-1 STANDARD



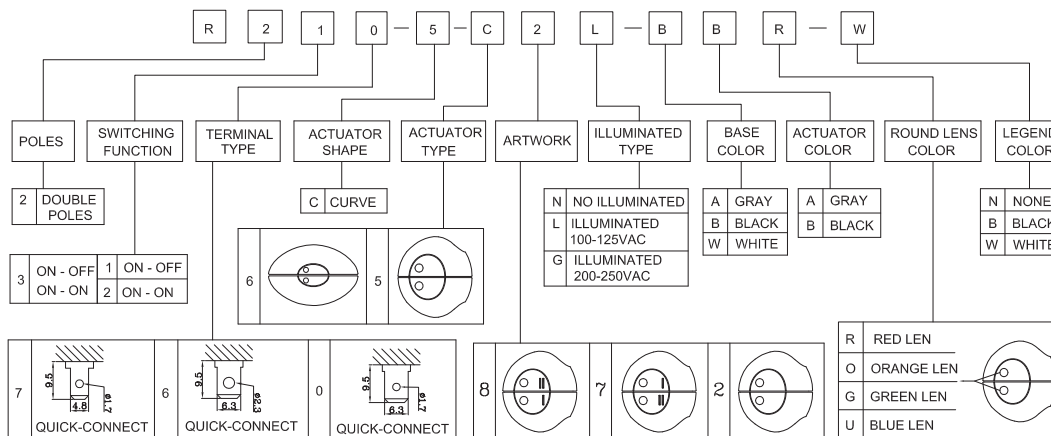
R-2 TWIN ACTUATOR TYPE



R-4 22*28 TYPE



R-5 ROUND ACTUATOR TYPE



R SERIES

ROCKER SWITCHES UP TO 20A 125VAC 3/4HP 250V, 16(8)A WITH APPROVALS
Soft outlook, illuminated or non-lighted, splash-proof cover



MOUNTING HOLE



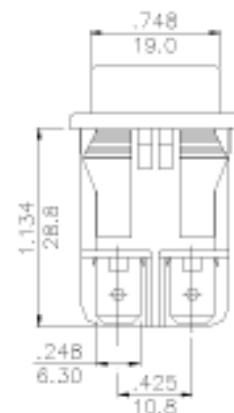
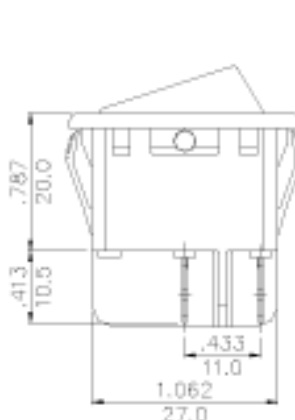
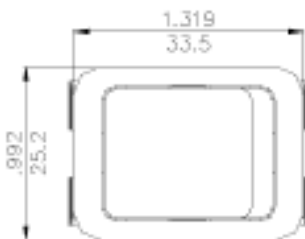
- DOUBLE POLES ROCKER SWITCHES
- Illuminated or non-illuminated
- splash proof cover available
- 16A 125/250VAC, 65 ϕ J (UL/CUL)-on-off-on
- 16A 125/250VAC 1/4HP (UL)
- 20A 125VAC, 3/4HP 250VAC (UL)
- 20A 125VAC /16A 250VAC, 3/4HP 125/250VAC T105 (UL/CUL)
- 16(4) 250V~T125 1E4, 10(2)A 250V~5E4 (VDE, ENEC)
- 16(8)A 250V~T125 (VDE, ENEC)
- 16(4)A 250V~T125 1E4 (CQC)
- 10(2)A 250V~T125 5E4 (CQC)
- Initial contact resistance : 20m ohm max.
- Insulation resistance : 100M ohm min, at 500VDC
- Dielectric strength : 1,000 VAC for 1 minute
- Electrical life : 16(4) A 250VAC : 10,000 cycles
- 10(2) A 250VAC : 50,000 cycles
- Temperature range : -20 to + 125 degrees in Celsius
- Switch for Class II appliances
- Base : Nylon 66, UL rated : 94V-2 min
- Actuator : Nylon 66 /PC, UL rated 94V-2 min
- Spring : Piano wire
- Contacts : Silver copper alloy
- Terminals : Silver copper alloy
- Lamp : Neon for AC; Tungsten bulb for DC

How to order



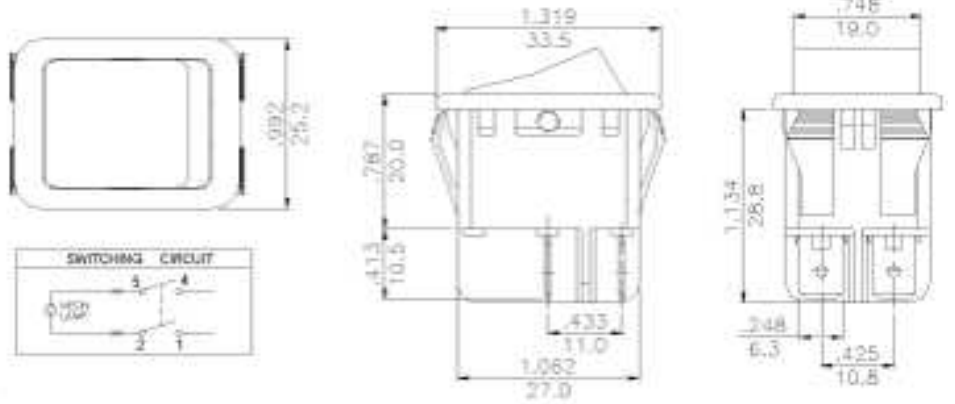
R210-1C2N-BB9-NN

i@

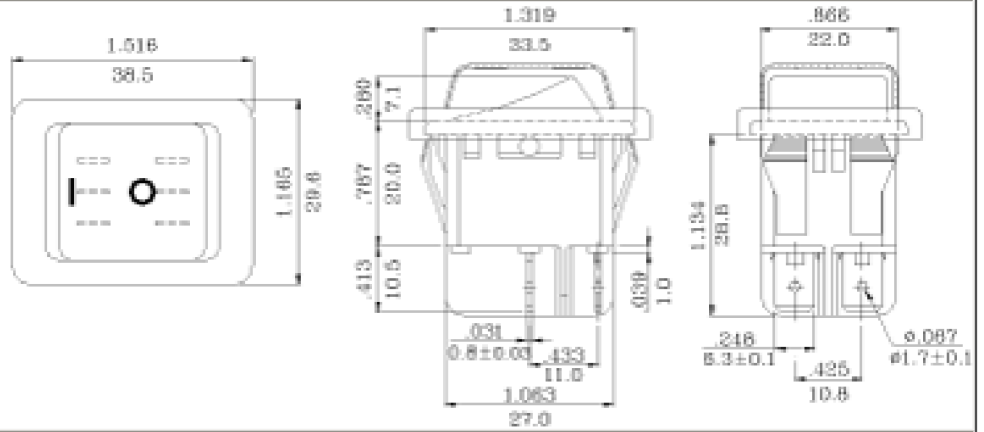




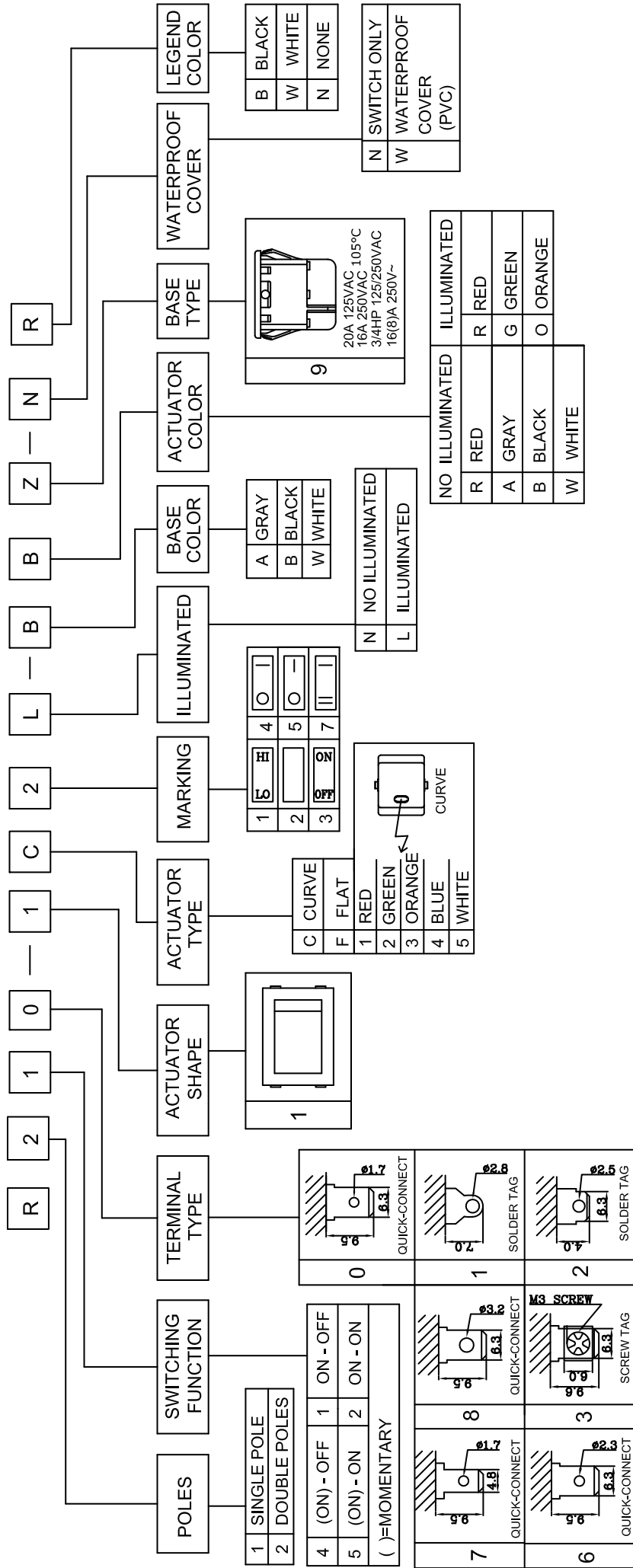
R210-1C2L-BR9-NN



R210-1C4N-BB9-WW



WATERPROOF COVER



MR2 SERIES

SINGLE POLE ROCKER SWITCHES UP TO **20A** 125VAC

Soldering, quick connecting and PCB terminals



Snap-in Panel Cutout
X=Panel Thickness

X	Dim.Y	Dim.Z
0.75 to 1.25mm	19.2 + 0 / -0.1	12.9 + 0.15 / - 0
1.25 to 2 mm	19.4 + 0 / -0.1	12.9 + 0.15 / - 0
2 to 3 mm	19.8 + 0 / -0.1	12.9 + 0.15 / - 0

#LED lamp available, circuit independent to the main power, all 4 terminals



- 12A 125VAC, 10A 250VAC (UL, CUL)
- 6A 125VAC, 3A 250VAC(UL)
- 10(4)A 250VAC~ T125 (VDE,ENEC)
- 10(4)A 250V~T125 (CQC)
- TV-6 (CUL), optional
- 20A 125VAC, 12A 250VAC (UL, CUL) optional
- 10A 12/14/18/24 VDC (UL,CUL)
- 16(8)A 250V T85 1E4 (VDE), optional
- Initial contact resistance : 20m ohm (max.)
- Insulation resistance : 100M ohm (min,) at 500VDC

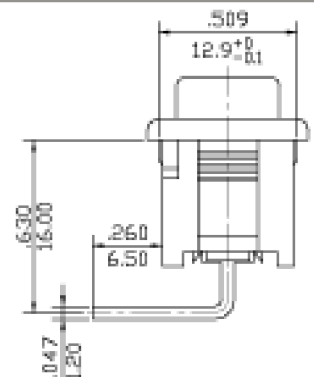
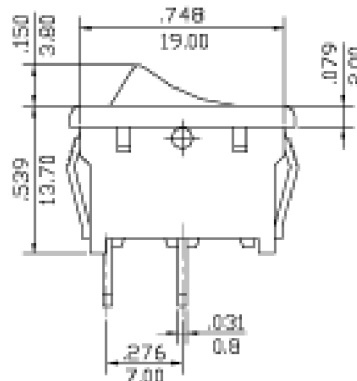
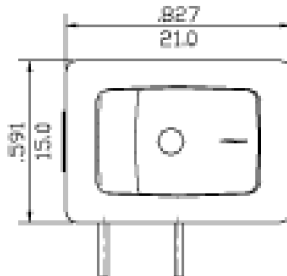
- Dielectric strength : 1,000VAC for 1 minute
- Electrical life : 10,000 cycles
- i@
- Switch for Class II appliances
- Base : Nylon 66, UL rated 94V-2 min
- Actuator : PBT / Nylon 66, UL rated 94V-2 min
- Spring : Piano wire
- Contact : Silver alloy
- Terminals: Silver plated Copper, soldering, quick connecting and PCB terminals offered

i@

[See How to order](#)

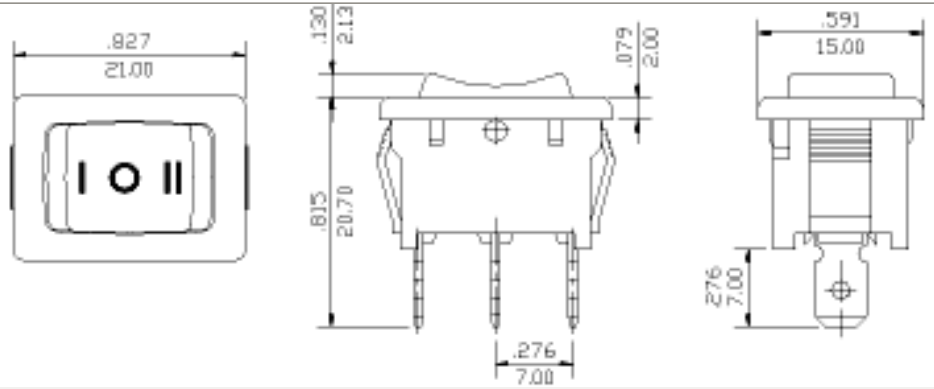


MR-2-112-C5-BB-3N

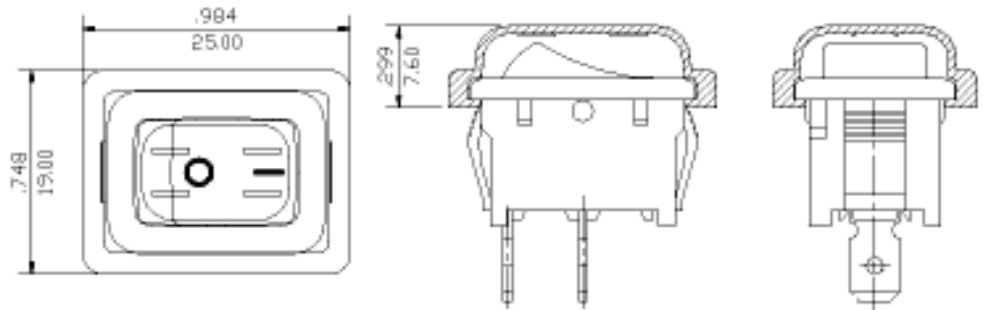




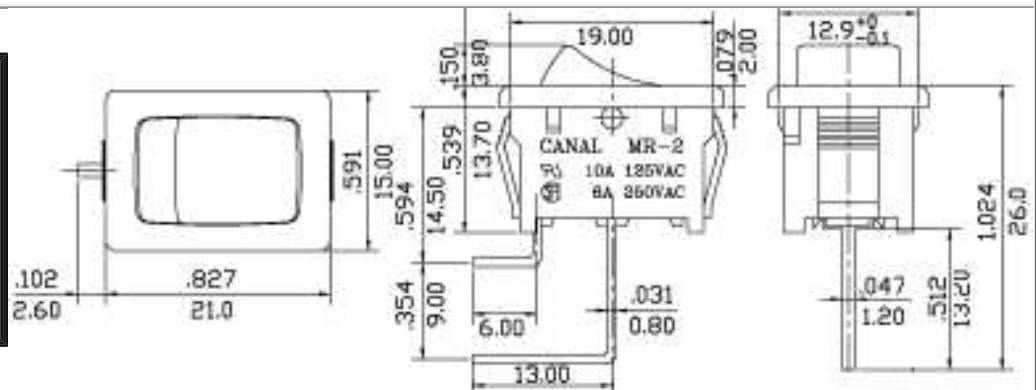
MR-2-130-C7-BB-3N



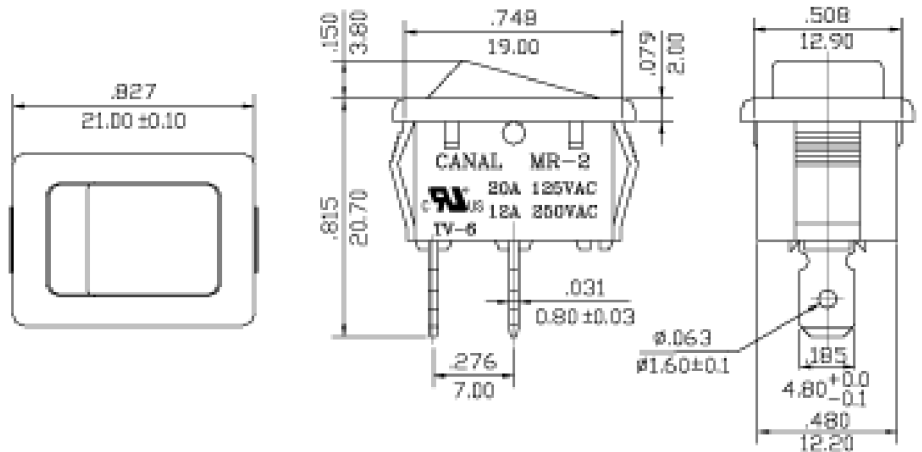
MR-2-111-C5-BB-3W with *Splash-proof cover*

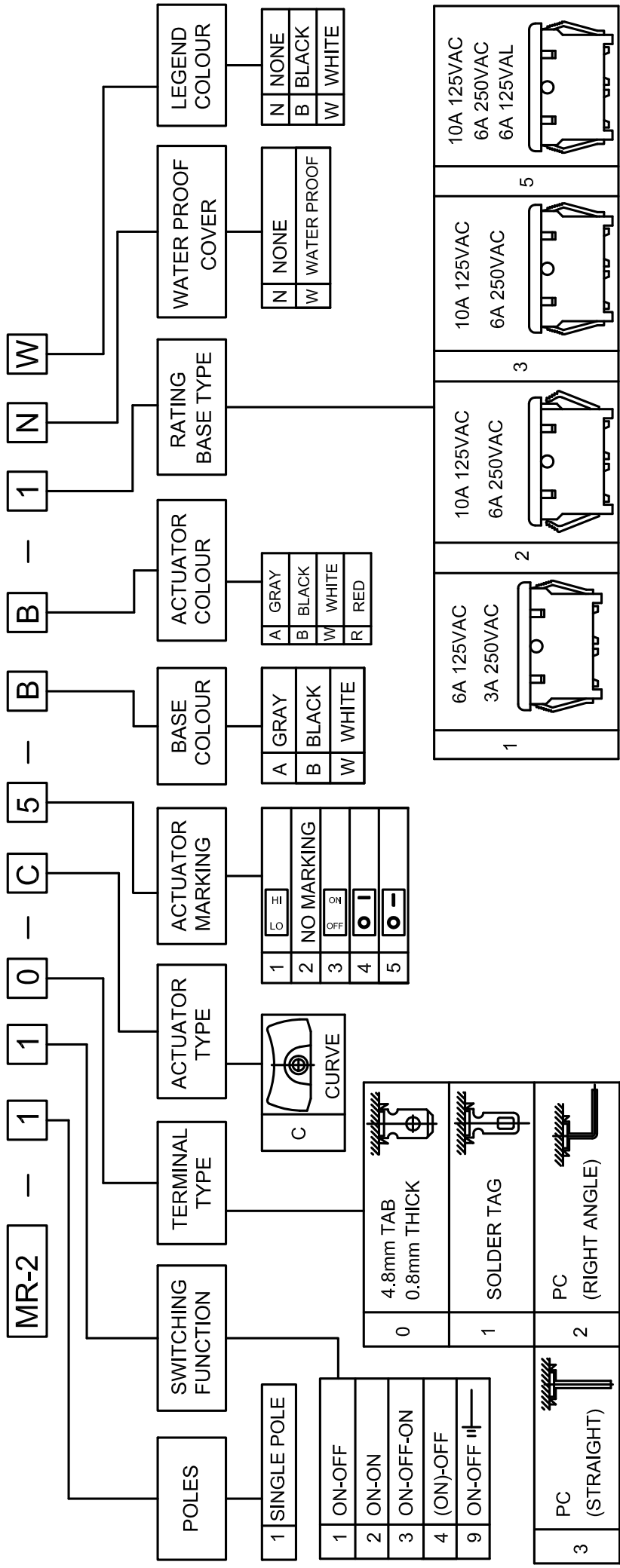


MR-2-11K-C5-BB-3N



MR-2-110-C2-BB-9N





Extended MR2 SERIES

SINGLE POLE ROCKER SWITCHES UP TO 16A(8) 125/250VAC

Soldering, quick connecting, UL61058-1 approved



MOUNTING HOLE	11.8 ^{+0.1} ₋₀
26.2 ⁺⁰ _{-0.1}	

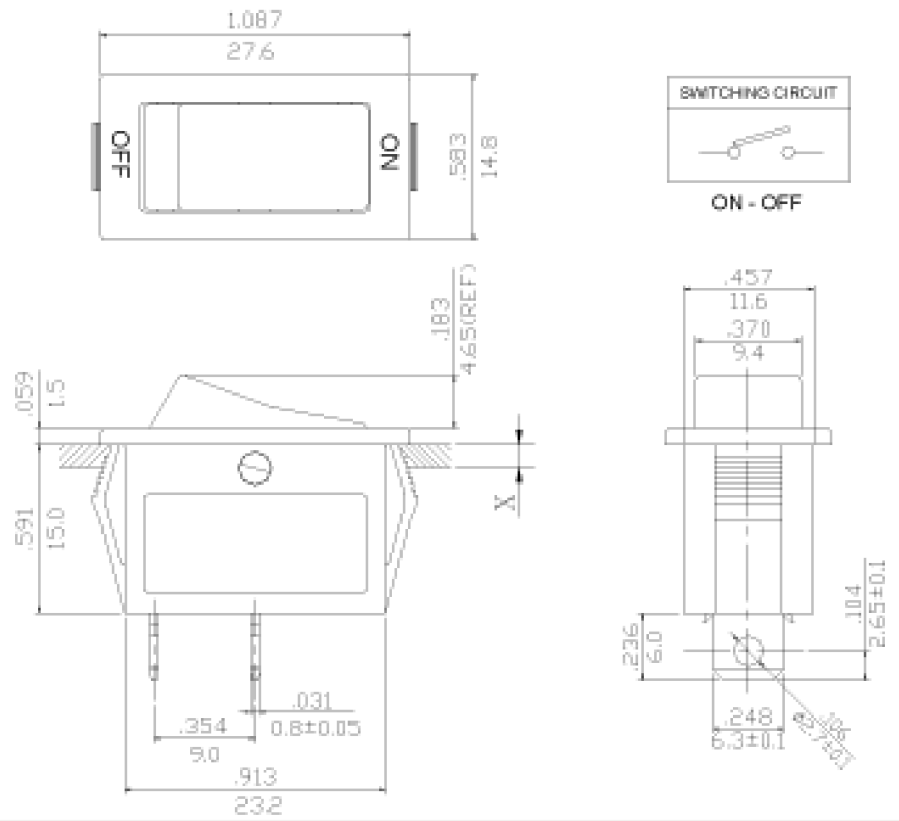
X=(1.0~2.0mm)
PANEL THICKNESS

- 16(8)A 125/250V~T55 (UL, CUL, ENEC)
- Initial contact resistance : 20m ohm (max.)
- Insulation resistance : 100M ohm (min,) at 500VDC
- Dielectric strength : 1,000VAC for 1 minute
- Electrical life : 10,000 cycles
- High inrush capability up to TV6 optional upon request
- Base : Nylon 66
- Actuator : PC or Nylon 66
- Leaf spring : Copper alloy
- Contact : Silver alloy
- Terminals: Silver plated Copper
- Spring: piano wire
- Lamp: 100~125VAC

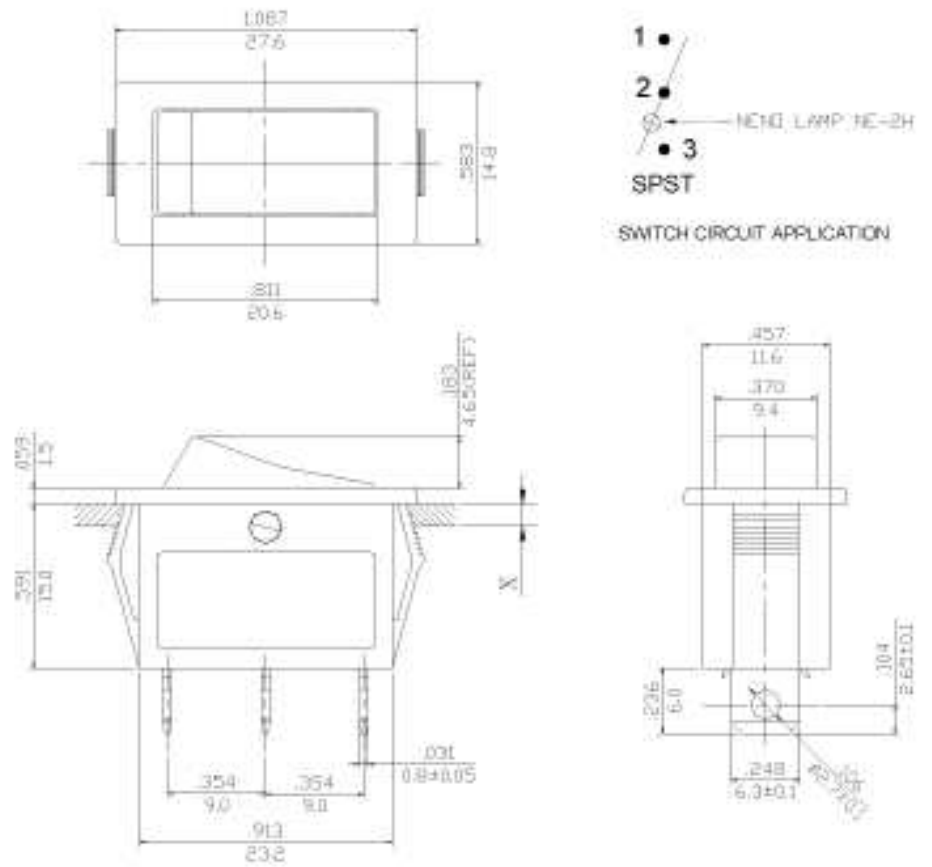


MR2-111C7B-NWWB-57NN

SPST, non-illuminated, all white
black color available



MR2-111-C7B-LWWB-57NN
 SPST, illuminated for 125V~
 white body



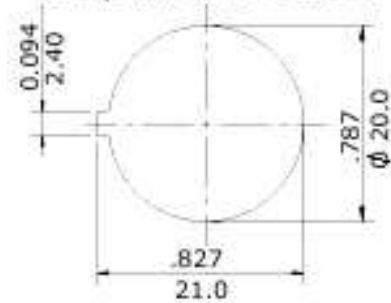
MR2 SERIES (ROUND)

SINGLE POLE ROUND ROCKER SWITCHES UP TO 10A 250VAC

Snap-in mounting, curve round panel



Snap-in Panel Cutout



#Up to 20A 125Vac for non-lighted



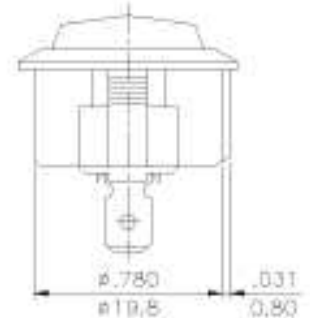
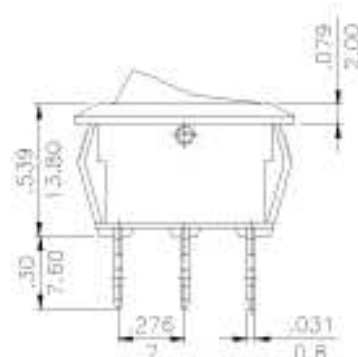
- 20A 125VAC, 12A 250VAC (UL, CUL)
- 10A 125VAC (UL)
- 6A 250VAC (UL)
- 6A 125VAC, 3A 250VAC(UL)
- 10(4)A 250VAC~ T125 (VDE,ENEC)
- 10(4)A 250V~ T125 (CQC)
- TV-6 (CUL)
- 10A 12/14/18/24 VDC (UL, CUL)
- 16(8)A 250V T85 1E4 (VDE, ENEC)
- Initial contact resistance : 20m ohm (max.)
- Insulation resistance : 100M ohm (min,) at 500VDC
- Dielectric strength : 1,000VAC for 1 minute
- Electrical life : 10,000 cycles

- Temperature range : -20 to +125 degrees in Celsius
- Switch for Class II appliances
- Base : Nylon 66, UL rated 94V-2 min
- Actuator : PC / Nylon 66, UL rated 94V-2 min
- Spring : Piano wire
- Contact : Silver alloy
- Terminals: Silver plated Copper, soldering, quick connecting
- Lamp: Neon or Tungsten lamp

How to order:

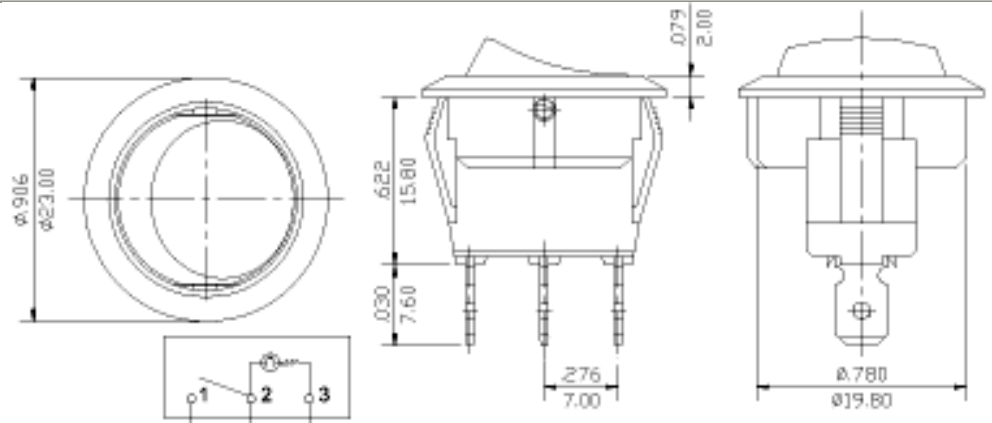


MR2-120-R2-BB **20A 125VAC**

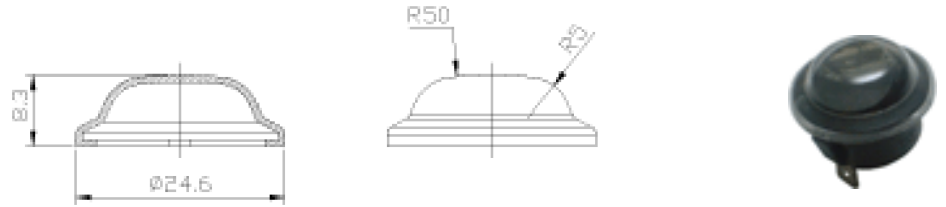




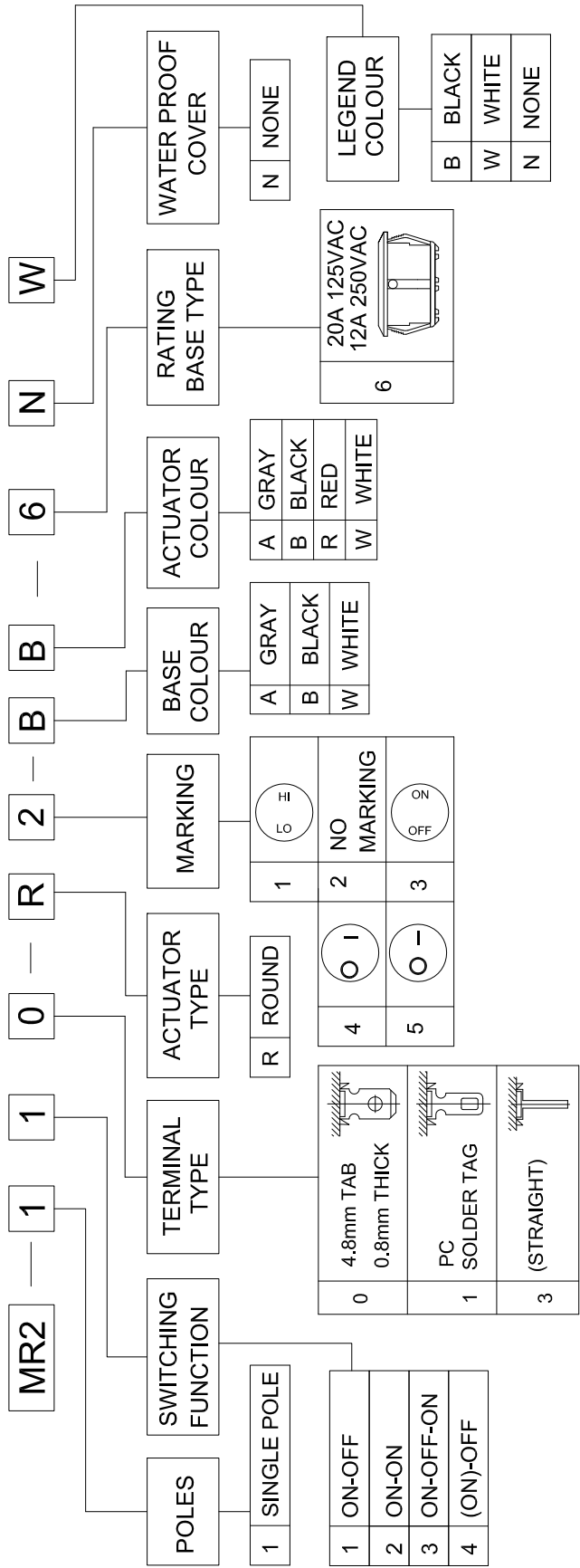
MR2-110-R2L-BR



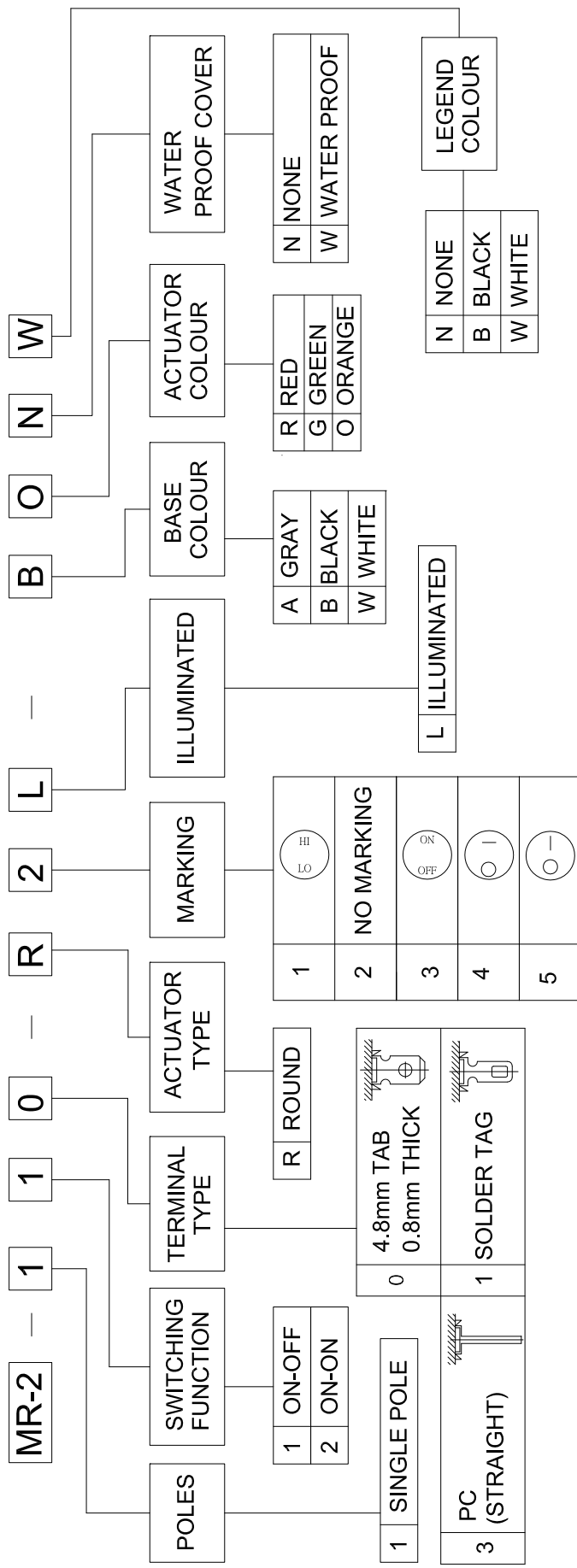
WATERPROOF COVER



MR-2 NO ILLUMINATED TYPE

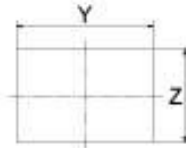


MR-2 ILLUMINATED TYPE



MR5 SERIES

ULTRA MINI-SIZE ROCKER SWITCHES, UP TO 6A 125VAC,
Small but Solid Outlook, can be Illuminated with LED and Laser-Engraving Icons



MOUNTING HOLE

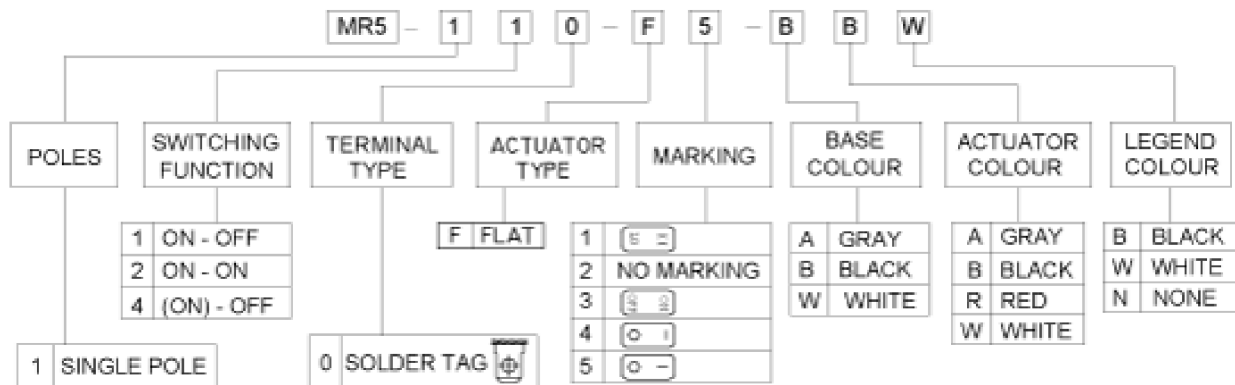
X=Panel thickness

X	Dim.Y	Dim.Z
0.75~1.25mm	13.6 +0.00 -0.10	9.20 ± 0.10
1.25~2.00mm	13.7 +0.00 -0.10	9.20 ± 0.10
2.00~2.50mm	13.8 +0.00 -0.10	9.20 ± 0.10

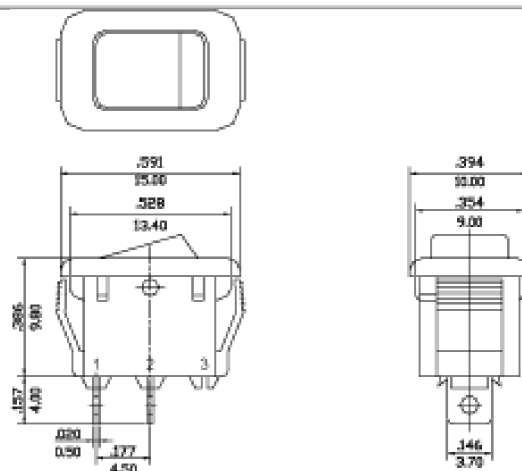


- 6A 125VAC, 3A 250VAC (UL, CUL)
- 3A 250VAC T100/55 (VDE, ENEC, KC)
- 3A 250VAC (CQC)
- Initial contact resistance : 20m ohm MAX.
- Insulation resistance : 100M ohm MIN. at 500VDC
- Dielectric strength : 1,000VAC FOR 1 MINUTE.
- Electrical life : 10,000 cycles.

- Temperature range : 0 to + 100 degrees in Celsius
- Base : Nylon 66, UL rated 94V-2 min
- Actuator : Nylon 66, UL rated 94V-2 min
- Spring : Piano wire
- Contacts: Silver alloy
- Terminals: Silver plated copper alloy
- Patent No: M400077 (TAIWAN)
- Patent No: 1918990 (CHINA)

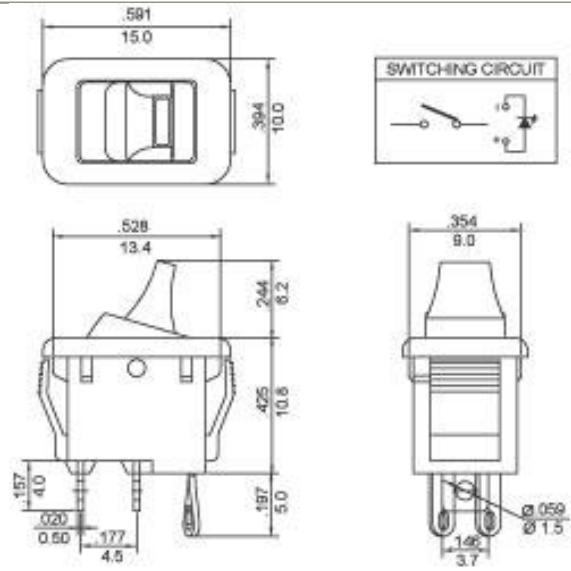
How to order:

MR5-110-F2-WWNN



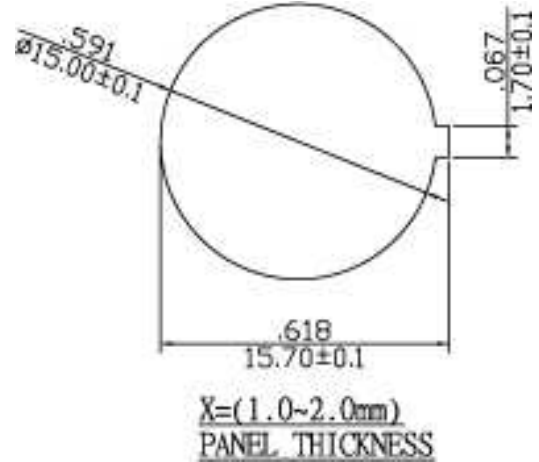


MR5-111H2DBSX-XXX
(Illuminated)
Patented in China/Taiwan



MR5-R-SERIES

Ultra Small Round Rocker Switches, up to 6A 125VAC
Illuminated type available



#Patented! World's smallest AC rocker switches
VDE according standard DIN EN 60335-1.

#MR5 passed glow wire testing 750 degrees in Celsius by

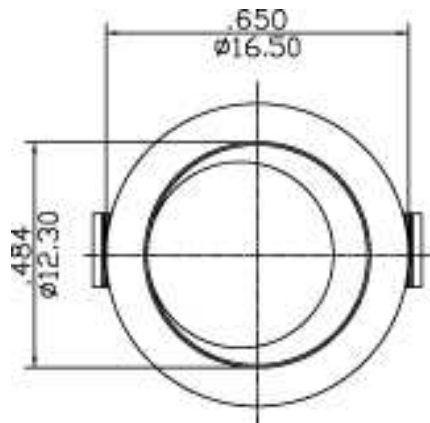


- 6A 125VAC, 3A 250VAC (UL, CUL)
- 3A 250VAC T100/55 (VDE, ENEC, KC)
- 3A 250VAC CQC
- Initial contact resistance : 20m ohm MAX.
- Insulation resistance : 100M ohm MIN. at 500VDC
- Dielectric strength : 1,000VAC FOR 1 MINUTE.
- Electrical life : 10,000 cycles.

- Temperature range : 0 to + 100 degrees in Celsius
- Base : Nylon 66, UL rated 94V-2 min
- Actuator : Nylon 66 or PC, UL rated 94V-2 min
- Spring : Piano wire
- Contacts: Silver alloy
- Terminals: Silver plated copper alloy

i@

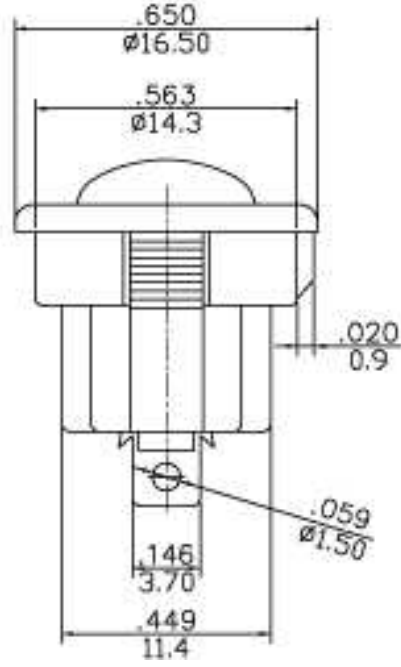
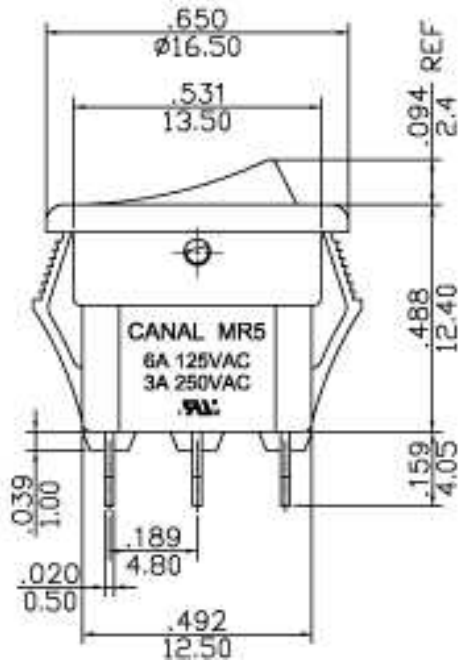
[How to Order:](#)

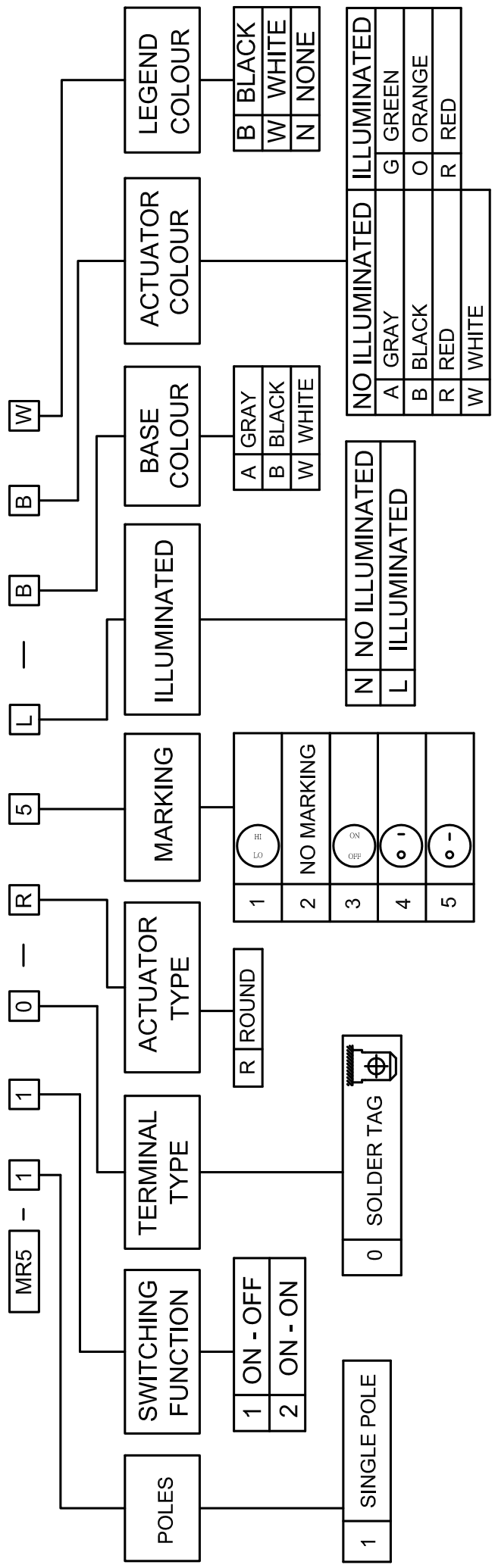


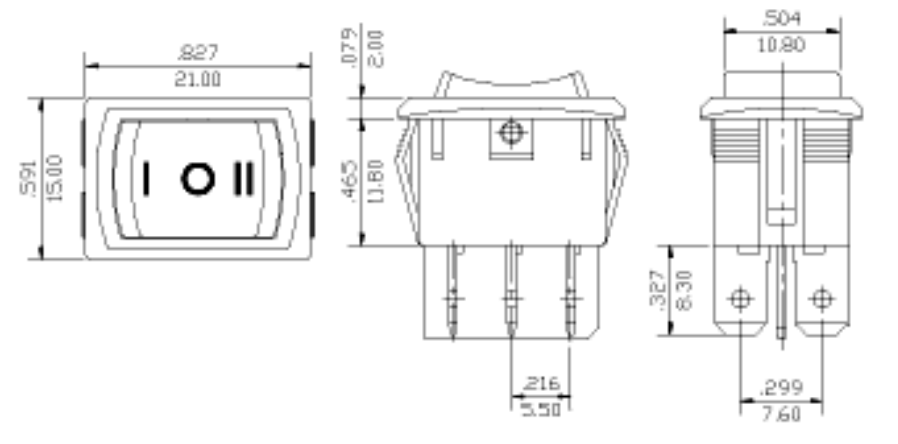
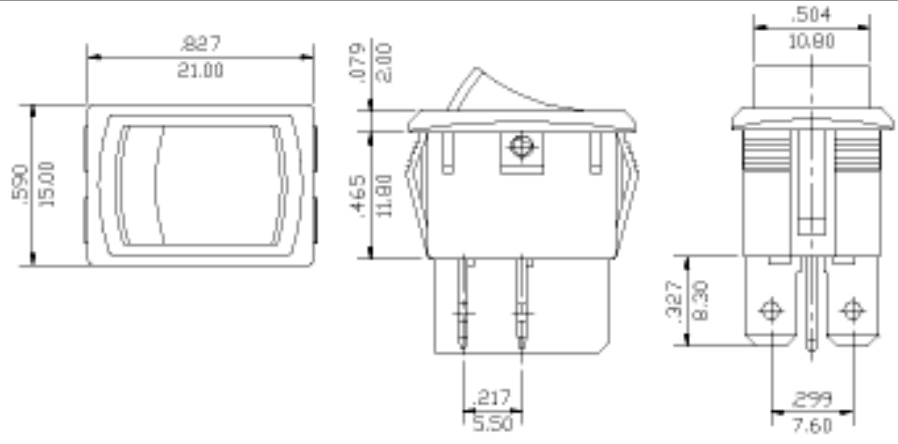
Pole on/off illuminated



SPST



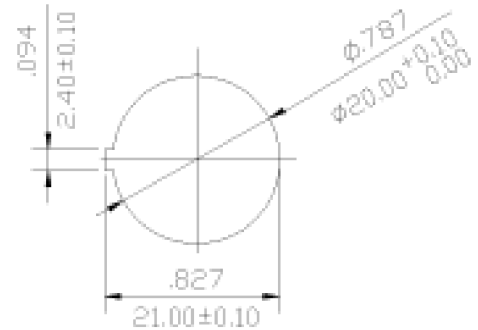




MR-3-R SERIES

ROUND ROCKER SWITCHES UP TO 13A 125VAC

Mini-rocker switches featuring on-off-on, and on-on



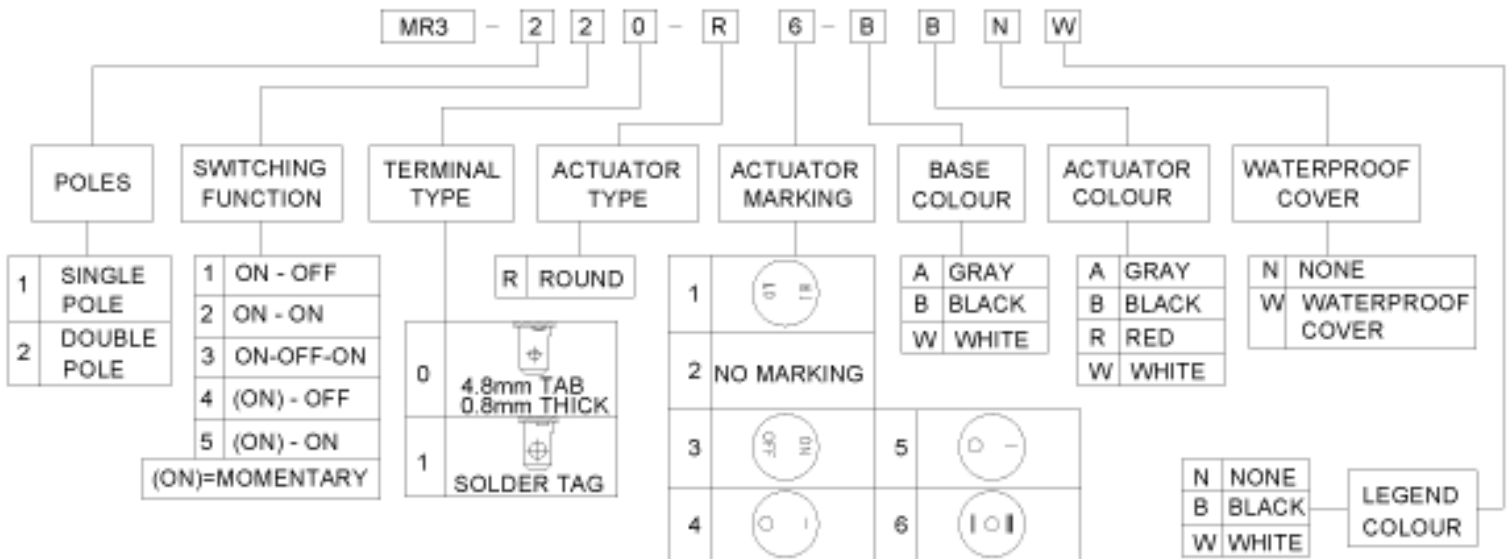
PANEL CUTOUT DIMENSION TABLE



- 10A 125 / 250VAC (cURus)
- 10(4)A 250V~£gT85 (FIMKO, ENEC)
- Initial contact resistance : 20m ohm max.
- Insulation resistance : 100M ohm min, at 500VDC
- Dielectric strength : 1,000 VAC for 1 minute

- Electrical life : 6,000 cycles
- Temperature range : -20 to + 85 degrees in Celsius
- Base : Nylon 66, 94V-2 min.
- Actuator : Nylon 66, 94V-2 min.
- Spring : Steel wire
- Contact arm : Silver plated alloy
- Terminals : Silver plated copper alloy

How to order:



MR3-H SERIES

ULTRA SMALL MINI ROCKER SWITCHES UP TO 10(4)A 250VAC
 SPDT, **on-off-on, on-on**, quick connect terminals



Ultra small, half sized of 13x19mm



Snap-in Panel Cutout
 X=Panel Thickness

X	Dim.Y	Dim.Z
0.75 to 1.25mm	19.2 + 0 / -0.1	6.65 ~ 6.75
1.25 to 2 mm	19.4 + 0 / -0.1	6.65 ~ 6.75
2 to 3 mm	19.8 + 0 / -0.1	6.65 ~ 6.75

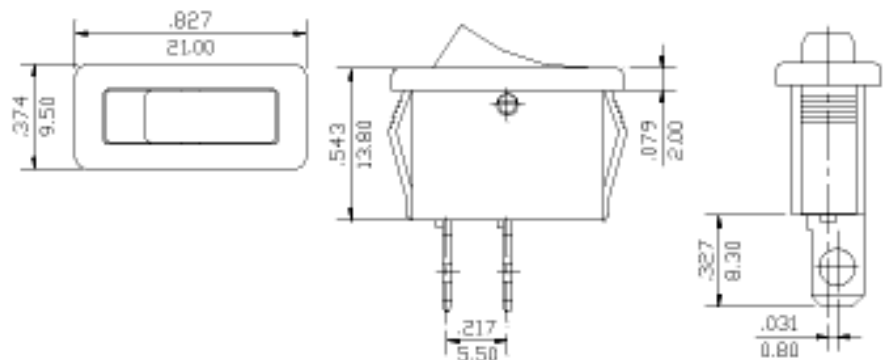


- 10A 125 / 250VAC (cURus)
- 10(4) 250V~£gT85 (FIMKO, ENEC)
- Initial contact resistance : 20m ohm max.
- Insulation resistance : 100M ohm min, at 500VDC
- Dielectric strength : 1,000 VAC for 1 minute
- Electrical life : 10,000 cycles
 - Temperature range : -20 to + 85 degrees in Celsius
- Base : Nylon 66, 94V-2 min.
- Actuator : Nylon 66, 94V-2 min.
- Spring : Piano wire
- Contact arm : Silver plated copper alloy
- Terminals : Silver plated copper
- Patent pending

How to order:

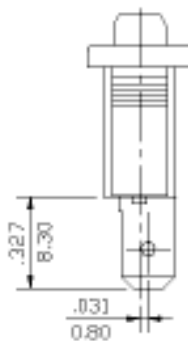
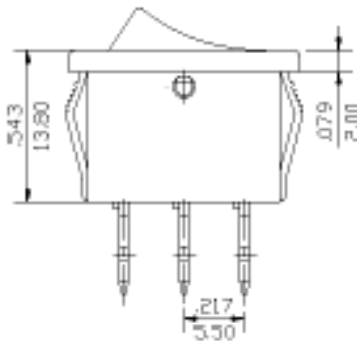
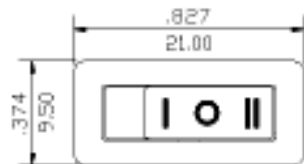


MR3-H11-C2-BBNN

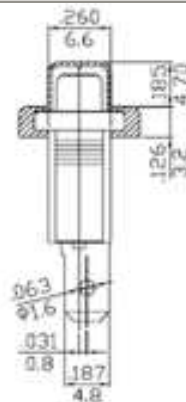
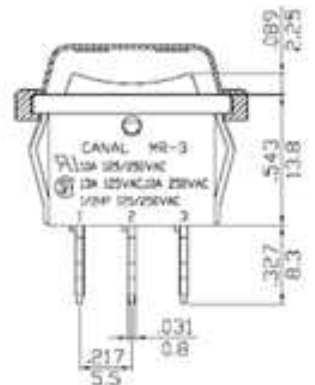
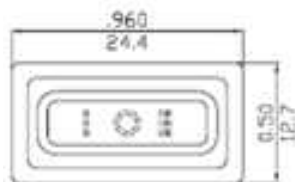


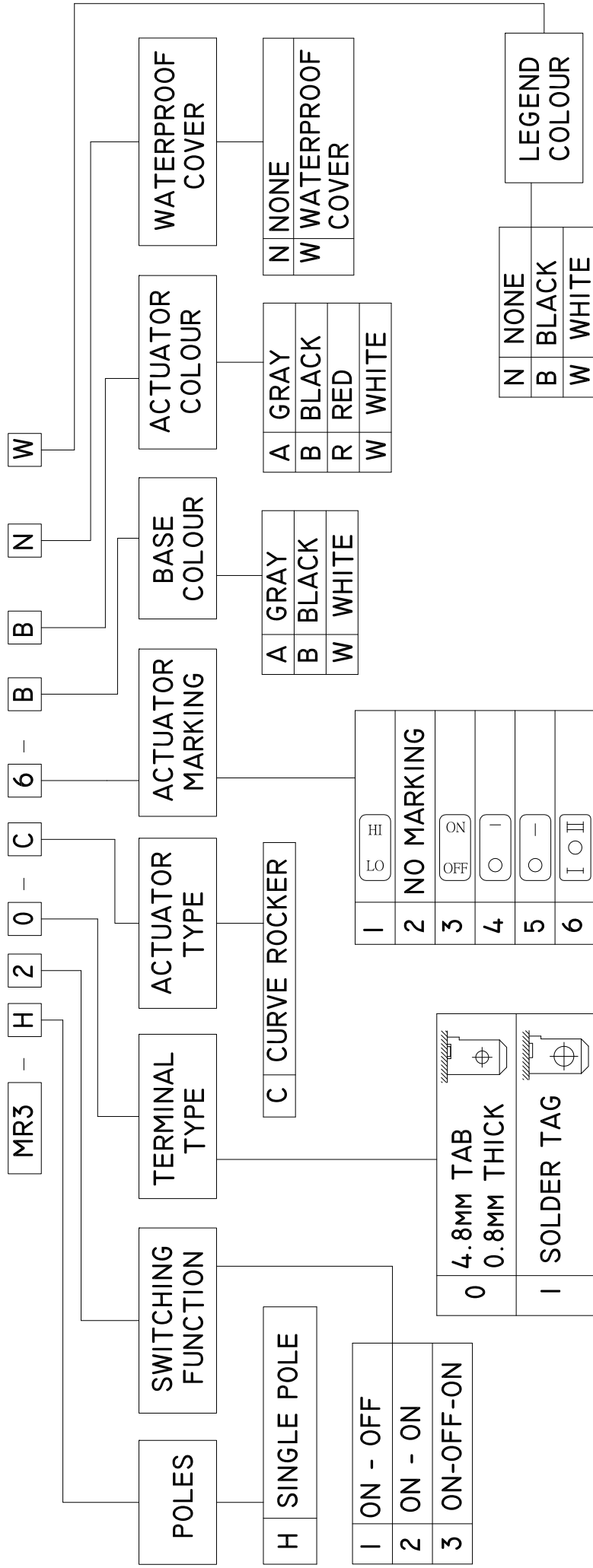


MR3-H30-C6-BBNW



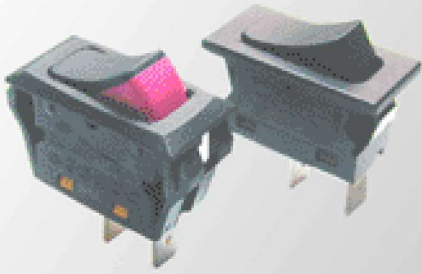
MR3-H30-C6-BBWW





HB SERIES

SPST, SPDT ROCKER SWITCHES UP TO 20A 125VAC, IP42 RATING, T125
classical outlook, crystal lighting, 6A "L", splash protected



Snap-in Panel Cutout
X=Panel Thickness

X	A		B		C	
	Dim.Y	Dim.Z	Dim.Y	Dim.Z	Dim.Y	Dim.Z
0.75 to 1.25	28.6+0/-0.1	13.8	28.6+0/-0.1	12.1	28.6+0/-0.1	13.4
1.25 to 2	28.8+0/-0.1	13.8	28.8+0/-0.1	12.1	28.8+0/-0.1	13.4
2 to 3	29.2+0/-0.1	13.8	29.2+0/-0.1	12.1	29.2+0/-0.1	13.4

#Two Color Rocker available; Consult the factory for "L" rating up to 90A inrush



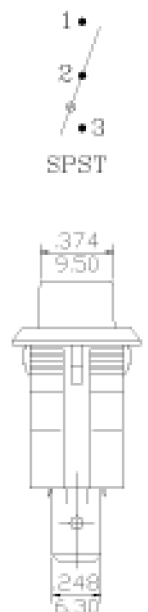
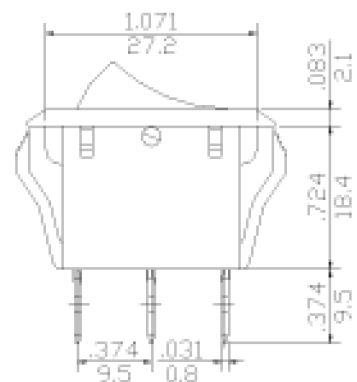
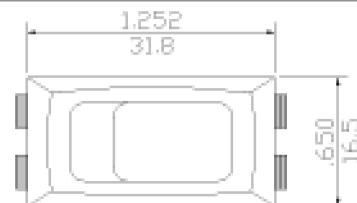
- Double shot rocker available, visi color
- Classical outlook, full or soft lighting
- 20A 125VAC / 16A 250VAC (UL,CUL)
- 6A 125VL, 3/4HP 250VAC(UL,CUL)
- 16(4) A 250VAC~T125 (VDE, ENEC)
- 16A 250VAC (CQC)
- Initial contact resistance : 20m ohm max.
- Insulation resistance : 100M ohm min, at 500VDC

- Dielectric strength : 1,000VAC for 1 minute
- Electrical life : 10,000 cycles
- Temperature range : -20 to +125 degrees in Celsius
- Switch for Class II appliances
- Base : Nylon 66, UL rated 94V-2 min
- Actuator : Nylon 66 or PC, UL rated 94V-2 min
- Spring : Piano wire
- Contacts : Silver alloy
- Terminals : Silver plated copper
- Lamp : Neon

[See How to order](#)

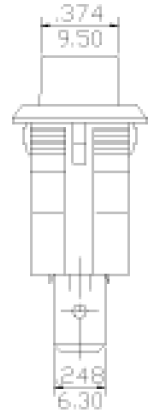
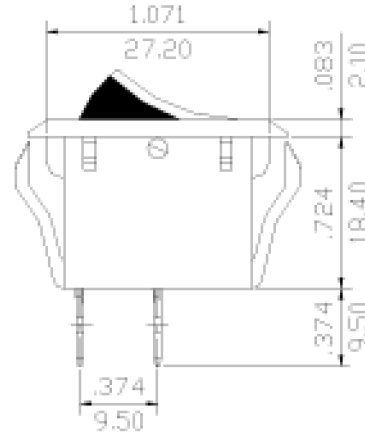
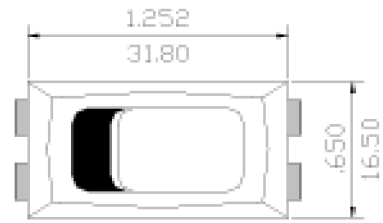


HB110-C2L-BRN-A

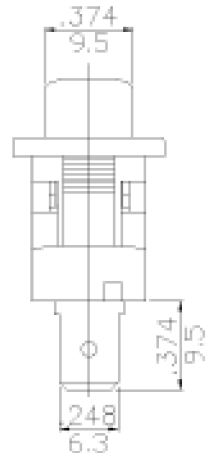
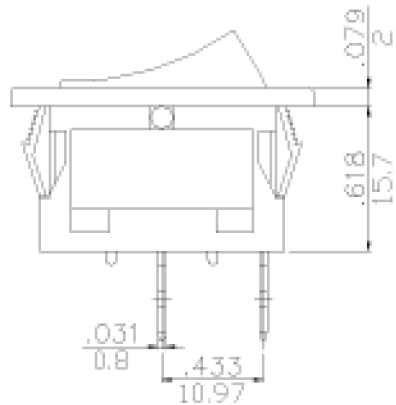
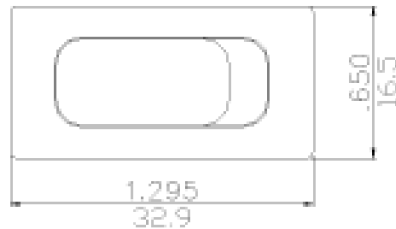




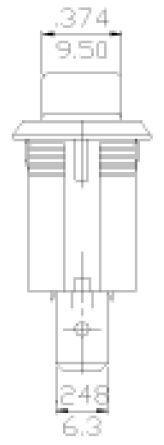
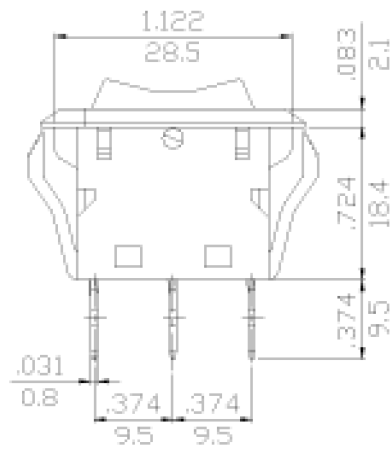
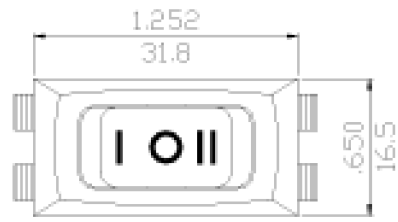
HB110-C2N-BBG-A



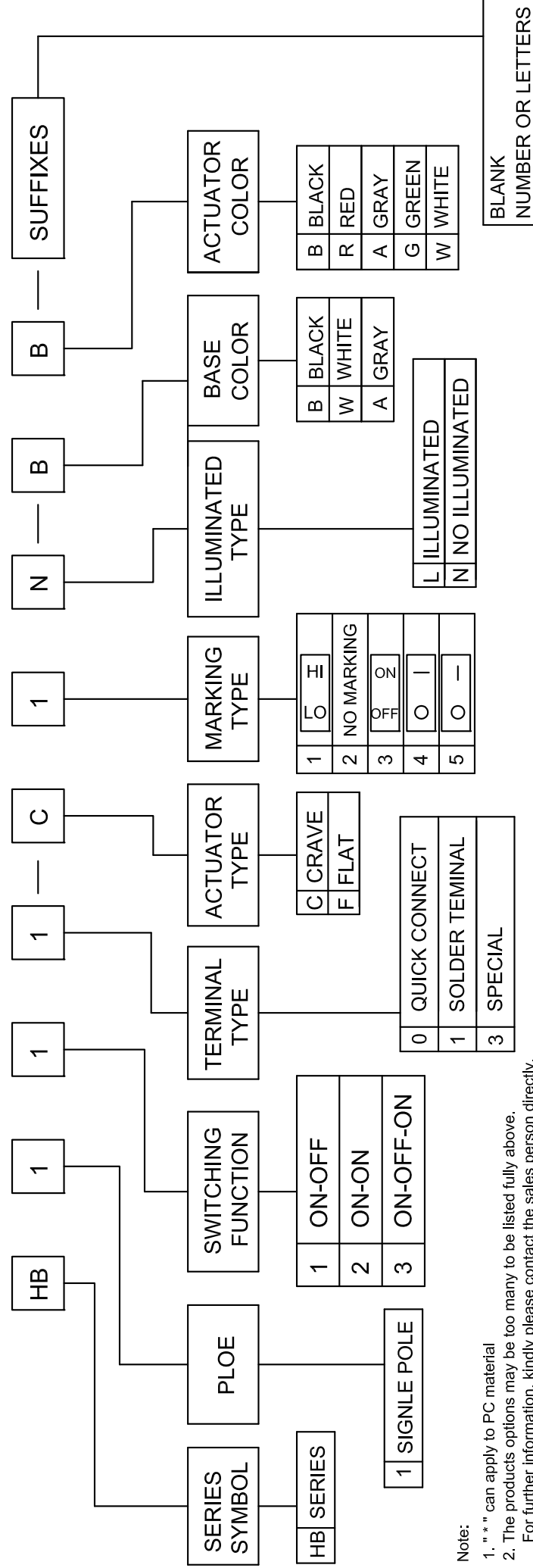
HB180-C2N-BBN-M



HB130-C8N-BRN-W



HB SERIES MODEL NUMBER DESIGNATION SYSTEM (SIMPLE)



Note:

1. " * " can apply to PC material
2. The products options may be too many to be listed fully above. For further information, kindly please contact the sales person directly.

B SERIES

SINGLE POLE ROCKER SWITCHES UP TO 15A 125VAC
cost saving, illuminated or non-lighted, wire lead terminals



Snap-in Panel Cutout
X=Panel Thickness

X	Dim.Y	Dim.Z
0.75 to 1.25mm	28.6 + 0 / - 0.1	13.6 + 0 / - 0.1
1.25 to 2 mm	28.8 + 0 / - 0.1	13.6 + 0 / - 0.1
2 to 3 mm	29.2 + 0 / - 0.1	13.6 + 0 / - 0.1



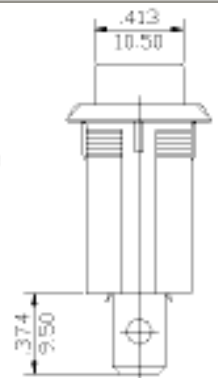
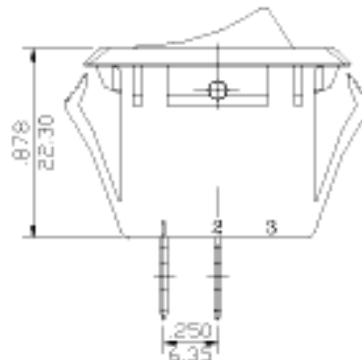
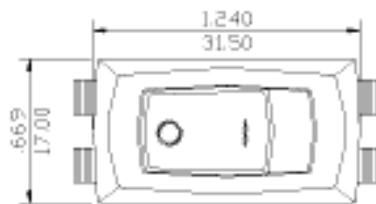
- 10A 250VAC (UL)
- 15A 125VAC (UL)
- Initial contact resistance : 20m ohm max.
- Insulation resistance : 100M ohm min, at 500VDC
- Dielectric strength : 1,000 VAC for 1 minute
- Electrical life : 6,000 cycles
- Temperature range : -20 to + 85 degrees in Celsius

- Base : Nylon 66, UL rated 94V-2 min
- Actuator : Nylon 66/PC, UL rated 94V-2 min
- Spring : Piano wire
- Contact : Copper alloy
- Terminals : Silver or tin plated copper
- Wire Lead: 16Awg wires (standards); 18Awg optional
- Lamp : Neon, Fluorescent

[See How to order in PDF](#)

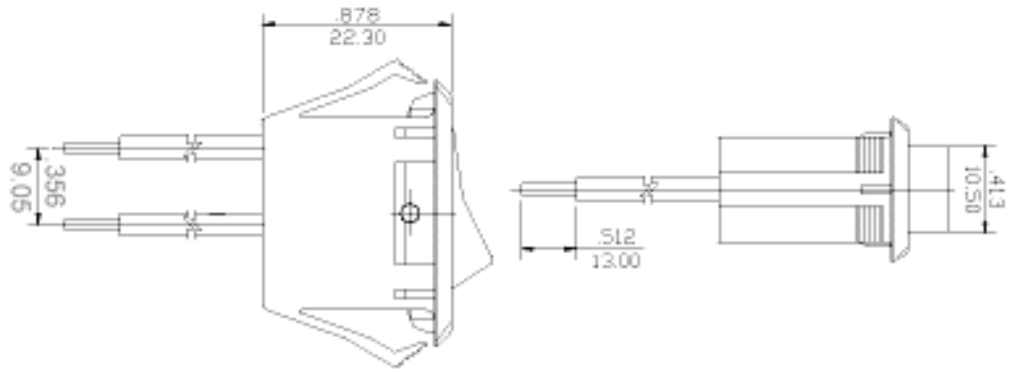


B160-R2L-BR2BM
B160-R2L-BR1BM





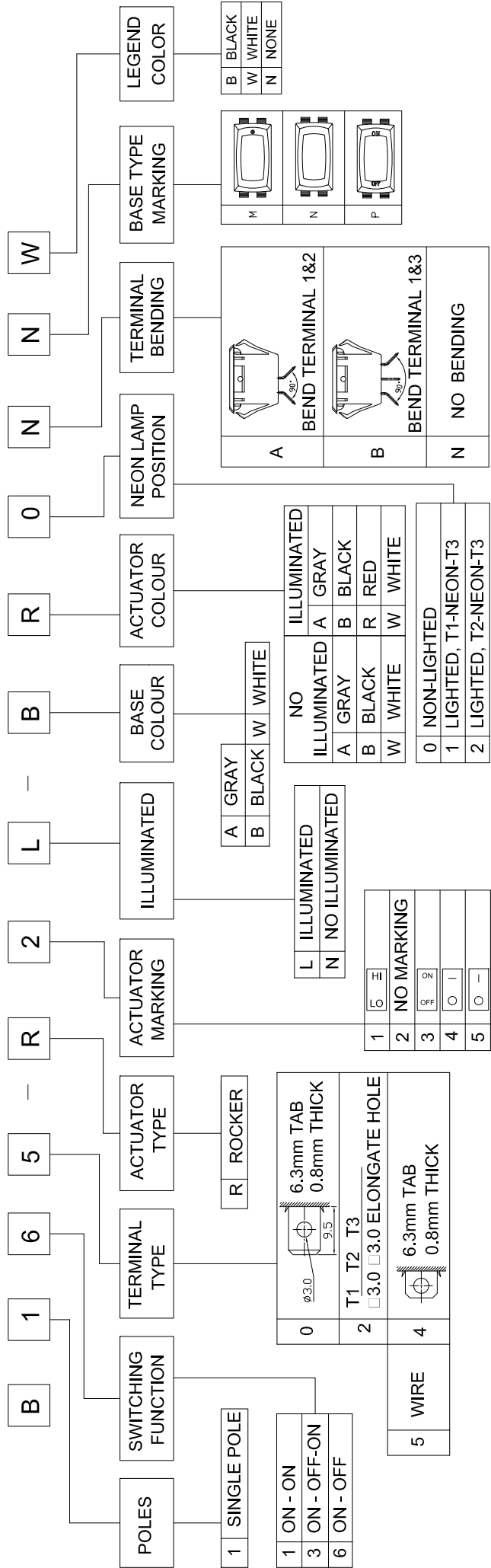
B165-R2N-BB0NN



B130-R2N-BB0NN

- 3 position, ON-OFF-ON
- Offered with quick-connect terminals

i@



B

1

6

5

R

2

L

-

B

R

0

N

N

N

W

POLES

1 SINGLE POLE

SWITCHING FUNCTION

1 ON - ON
3 ON - OFF-ON
6 ON - OFF

TERMINAL TYPE

0 $\varnothing 3.0$ 9.5
T1 T2 T3
2 $\square 3.0$ $\square 3.0$ ELONGATE HOLE
4 6.3mm TAB
0.8mm THICK

ACTUATOR TYPE

R ROCKER

ACTUATOR MARKING

1	
2	NO MARKING
3	
4	
5	

ILLUMINATED

A GRAY
B BLACK W WHITE

NO ILLUMINATED	ILLUMINATED
A GRAY	A GRAY
B BLACK	B BLACK
W WHITE	R RED
	W WHITE
0 NON-LIGHTED	
1 LIGHTED, T1-NEON-T3	
2 LIGHTED, T2-NEON-T3	

BASE COLOUR

ACTUATOR COLOUR

NEON LAMP POSITION

A		BEND TERMINAL 1&2
B		BEND TERMINAL 1&3
N		NO BENDING

TERMINAL BENDING

BASE TYPE MARKING

M	
N	
P	

LEGEND COLOR

B	BLACK
W	WHITE
N	NONE

RH SERIES

SINGLE POLE ROCKER SWITCHES UP TO 20A 125VAC
illuminated or non-lighted, round or square LED lighted



Snap-in mounting

x=panel thickness

X	Dim.Y	Dim.Z
0.75 to 1.25 mm	30.0+0/-0.1	11.0+0.1/-0
1.25 to 2 mm	30.2+0/-0.1	11.0+0.1/-0
2 to 3 mm	30.5+0/-0.1	11.0+0.1/-0

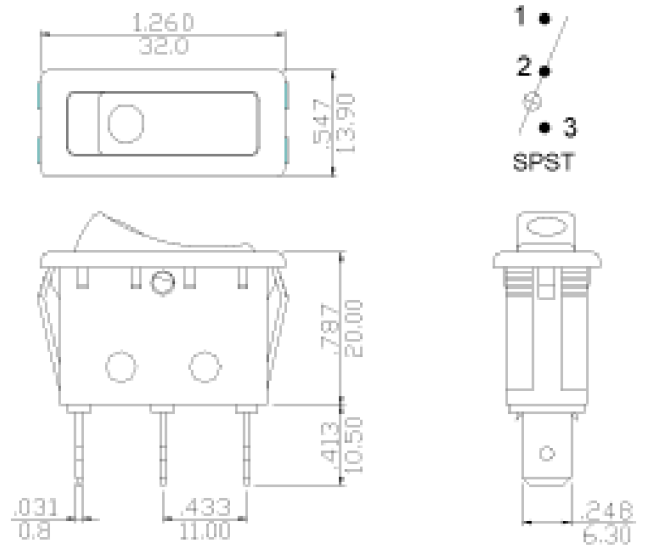


- Round LED effect lighting
- on-off-on, off-momentary on available
- 16A 125/250VAC, 65 ϕ J (UL/CUL)-on-off-on
- 16A 125/250VAC 1/4HP (UL)
- 20A 125VAC, (UL)
- 20A 125VAC /16A 250VAC, 3/4HP
125/250VAC T105 (UL/CUL)
- 16(4) 250V~T85/55 1E4, 10(2)A 250V~T85/55
5E4 (VDE, ENEC)
- 20(8)A 250V~T125/55 (VDE,ENEC)
- Initial contact resistance : 20m ohm max.
- Insulation resistance : 100M ohm min, at
500VDC
- Dielectric strength : 1,000 VAC for 1 minute
- Electrical life : 16(4) A 250VAC : 10,000 cycles
- 10(2) A 250VAC : 50,000 cycles
- Temperature range : -20 to + 85 degrees in
Celsius
- Switch for Class II appliances
- Base : Nylon 66, UL rated : 94V-2 min
- Actuator : Nylon 66 /PC, UL rated 94V-2 min
- Spring : Piano wire
- Contacts : Silver alloy
- Terminals : Silver plated copper
- Lamp : Neon for AC; Tungsten bulb for DC

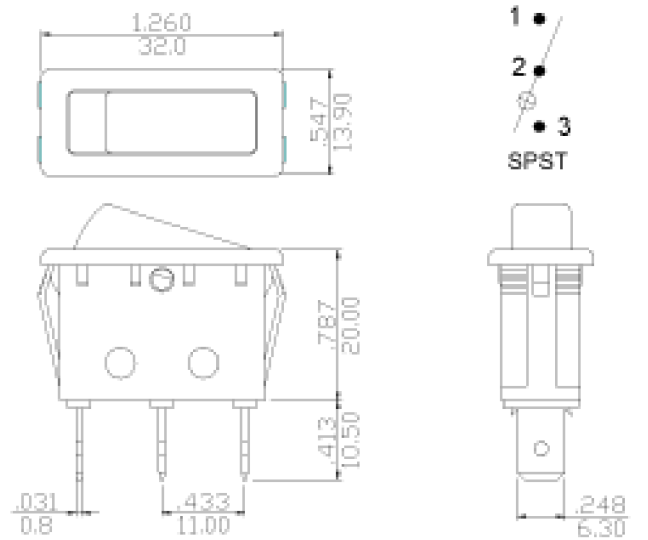
[How to order:](#)



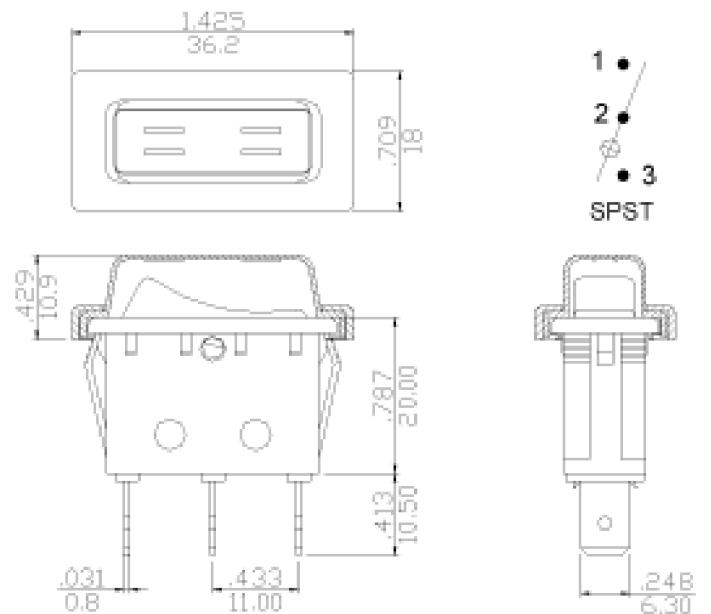
RH110-CGC-BBN



RH110-F2L-BRN

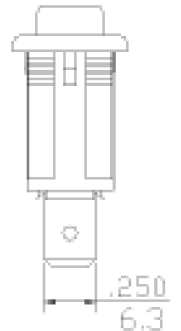
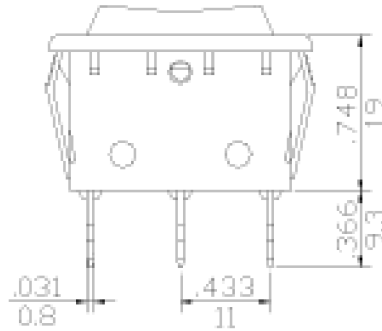


RH110-C5L-BGW

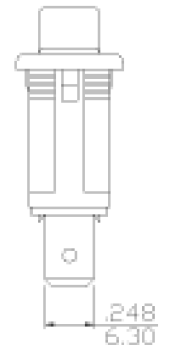
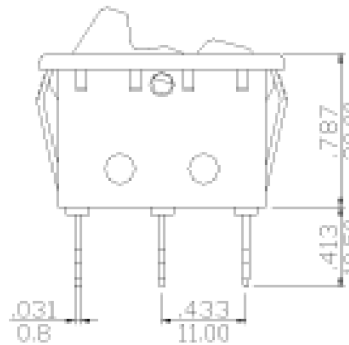
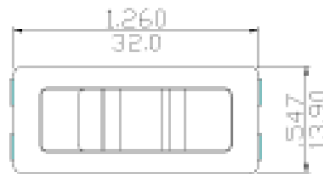




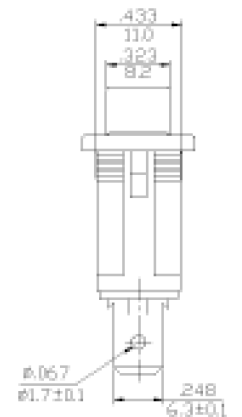
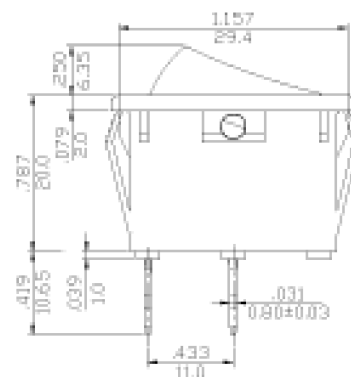
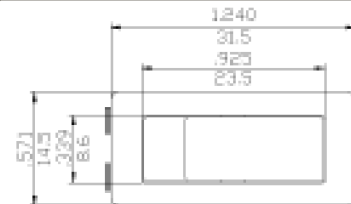
RH130-C6N-BBN



RH120-S2N-BBN



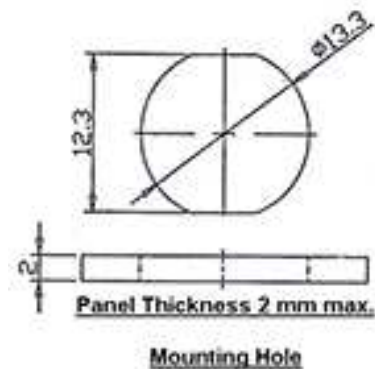
RH110-C2N-BBN-1NC



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SW-273 SERIES

Ultra Small Round Rocker Switches, up to 3A 125VAC
SPST, SPDT, DPDT



#World's Smallest AC Round Rocker Switches

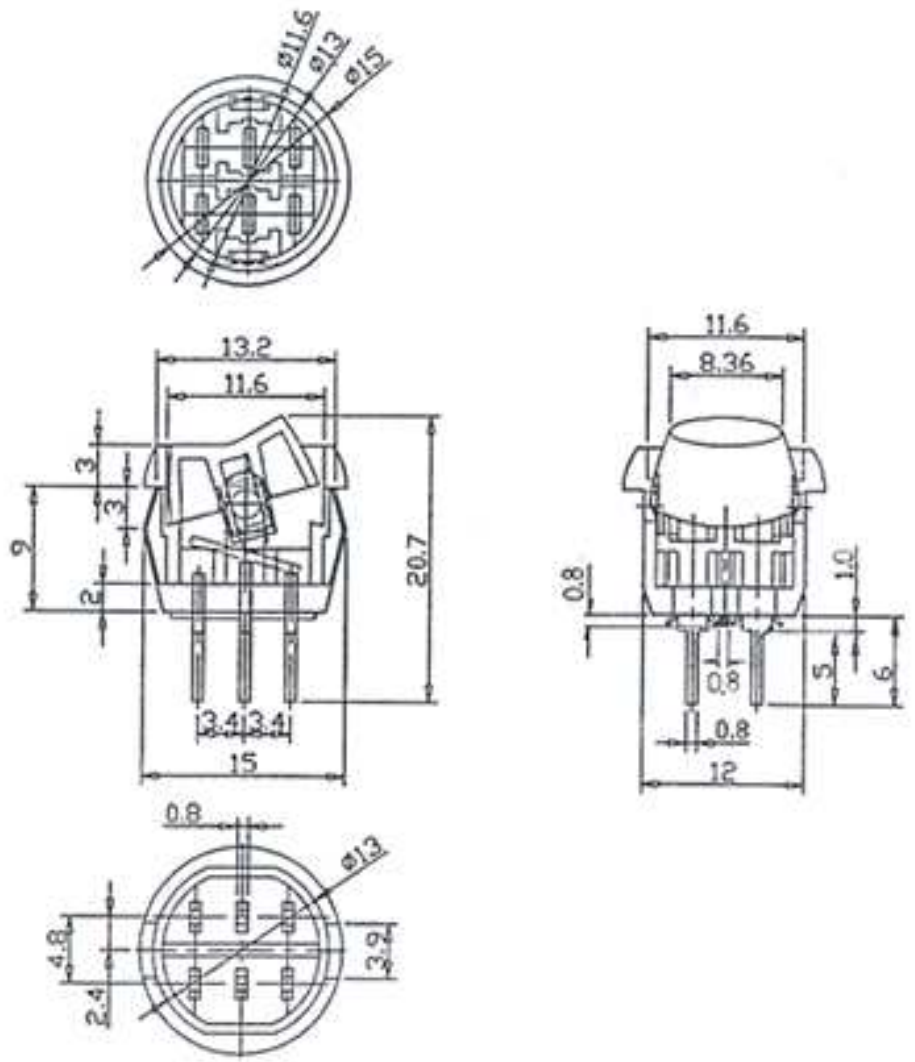
- 3A 125VAC
- Mechanical life :100,000 cycles.
- Electrical life : 30,000 cycles.

i@

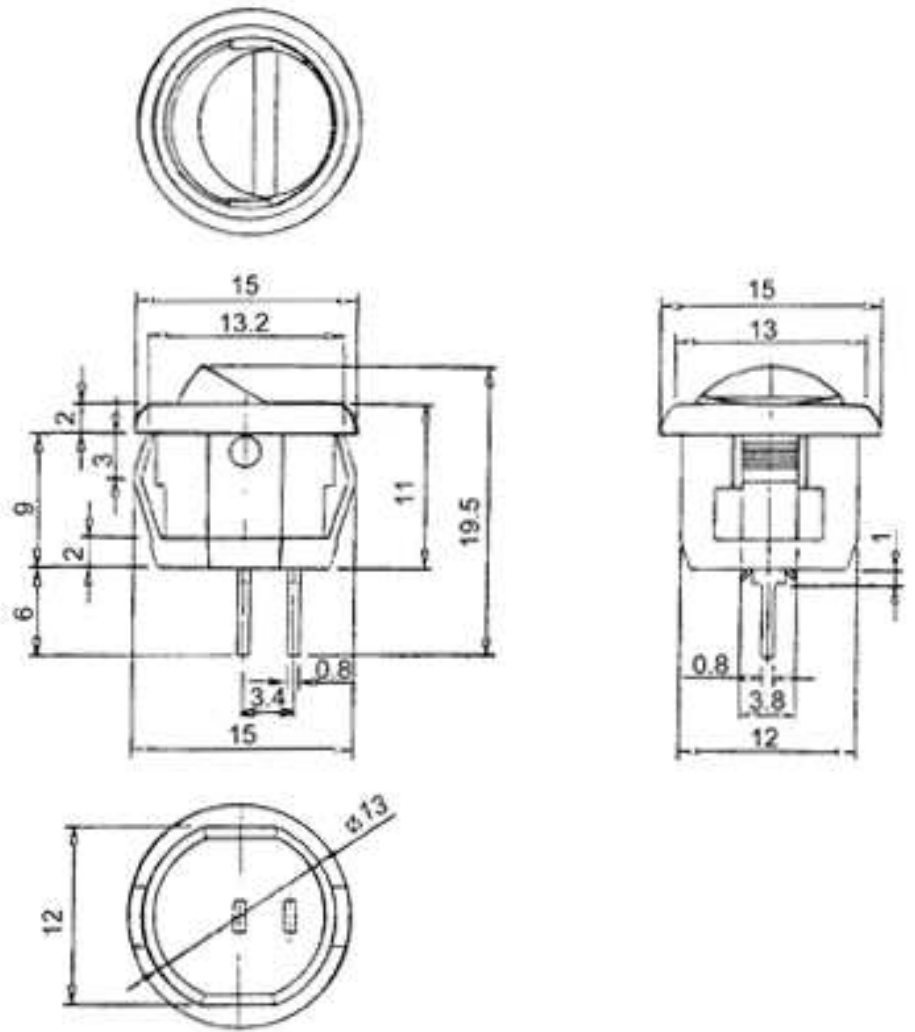
- Base : Nylon 66
- Actuator : Nylon 66
- Terminals: Silver plated copper alloy
- SW2736-DPDT ON-ON
- SW2737-SPST ON-OFF
- SW2738-SPDT ON-ON
- Solder terminal available, please consult our sales.



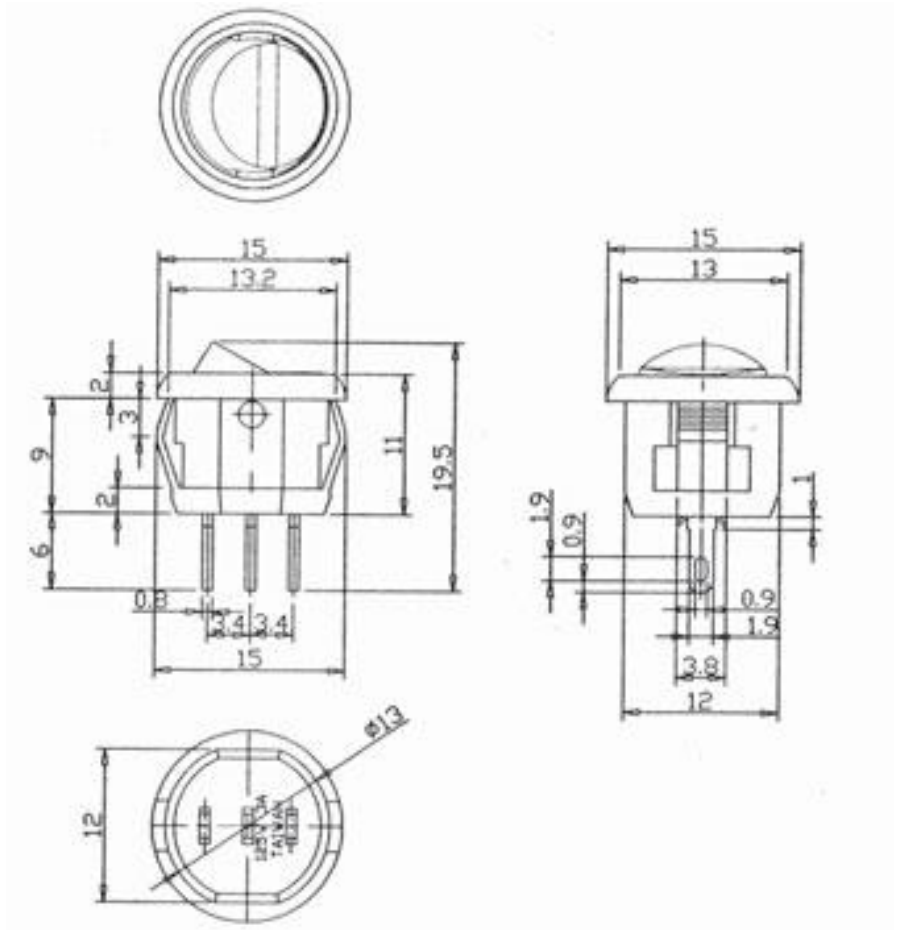
SW-2736
DPDT
ON-ON



SW-2737
SPST
ON-OFF



i@
SW-2738-A
SPDT
ON-ON



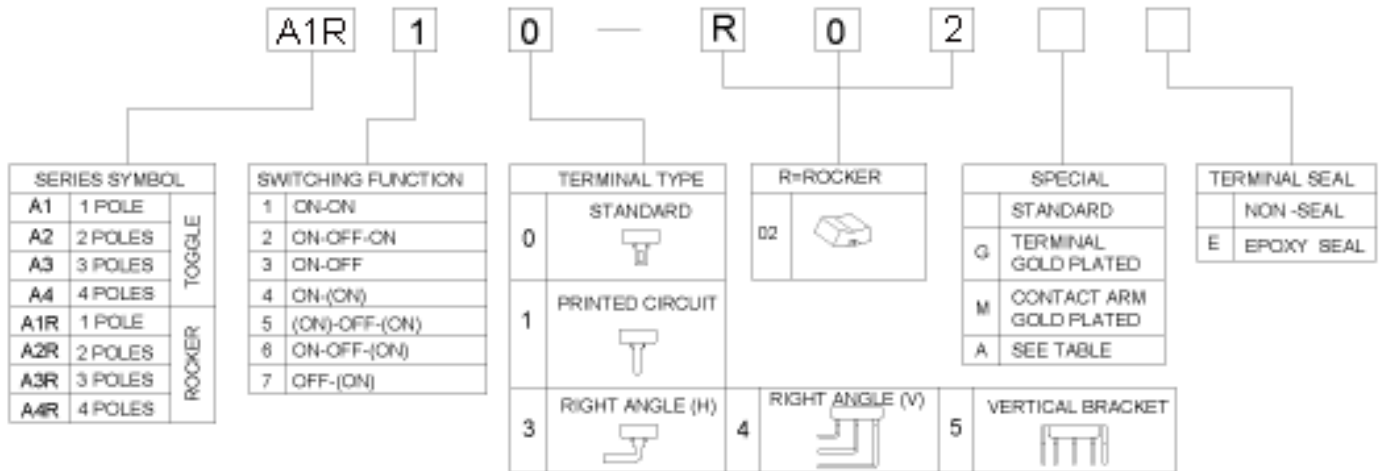
A SERIES

Miniature rocker switches up to 5A 120VAC

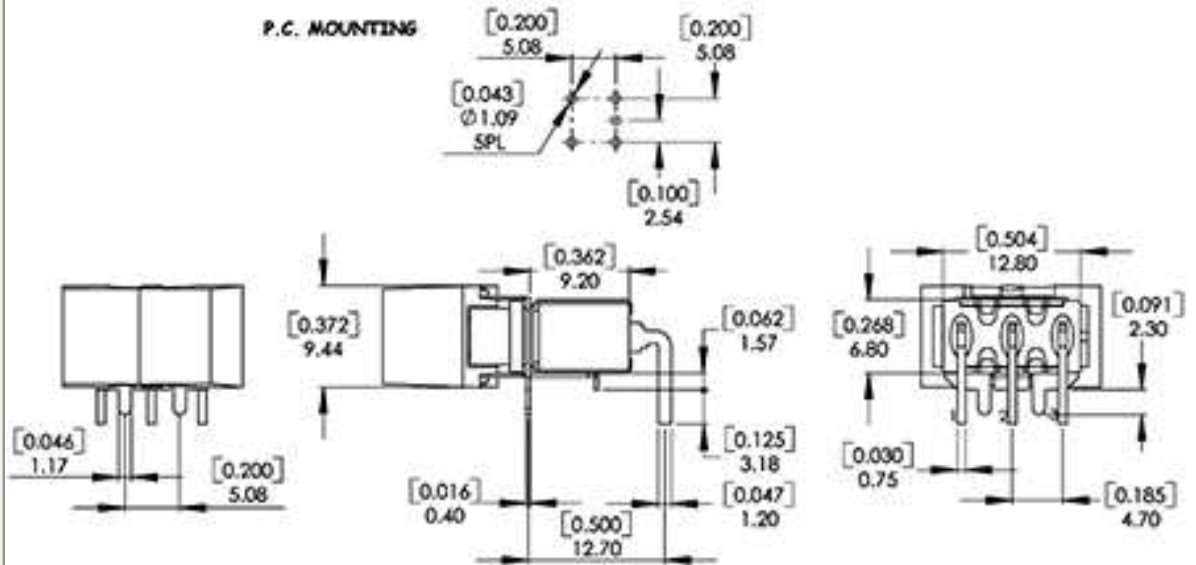


- 5A 120VAC, 2A 250VAC (UL)
 - 5A 28VDC (UL)
 - Initial contact resistance : 10m ohm (max.)
 - Insulation resistance : 1000M ohm (min)
 - Dielectric strength : 1,000VAC for 1 minute
 - Life cycle : 50,000 cycles
 - Operating temperature : -30 to +130 degrees in Celsius
 - Base : Diallyl phthalate (DAP)
- Actuator : Rocker, nylon 66, paddle available
 - Bushing : Brass, nickel plated
 - Housing : Stainless steel.
 - Terminals : silver plated brass or gold plated optional
 - Contact : Silver plated copper, gold plated optional
 - Snapin rocker or paddle available
 - Epoxy sealed optional

How to order



A1R13-R02
i@



MA SERIES

Sub miniature toggle, rocker switches up to 3A 120VAC



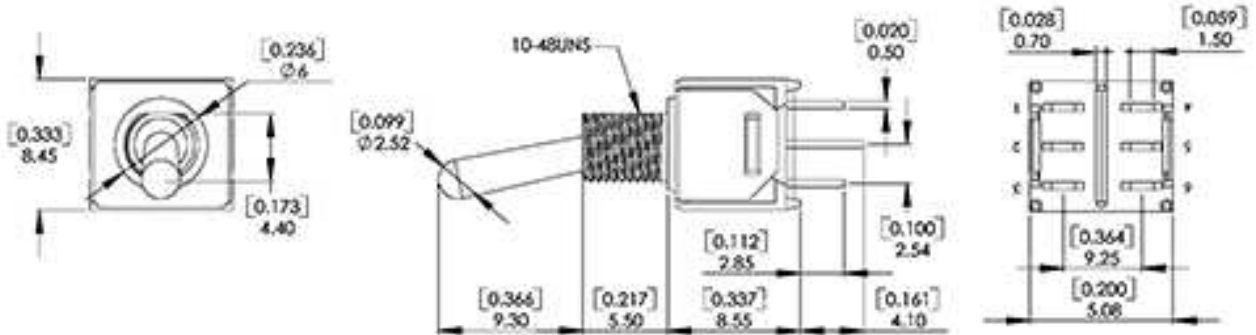
- 3A 120VAC, 1.5A 250VAC (UL)
- 3A 28VDC (UL)
- Initial contact resistance : 20m ohm (max.)
- Insulation resistance : 1000M ohm (min)
- Dielectric strength : 1,000VAC for 1 minute
- Life cycle : 30,000 cycles
- Temperature range : -30 ϕ J to + 130 ϕ J
- Base : Diallyl phthalate (DAP).
- Actuator : Rocker, Nylon 66; Toggle, brass chrome plated
- Gasket: nickel plated steel
- Nuts: brass, nickel plated
- Bushing : Brass, nickel plated
- Housing : Stainless steel
- Terminals : silver plated brass, gold plated optional
- contact : Silver plated brass
- gold plated optional

i@

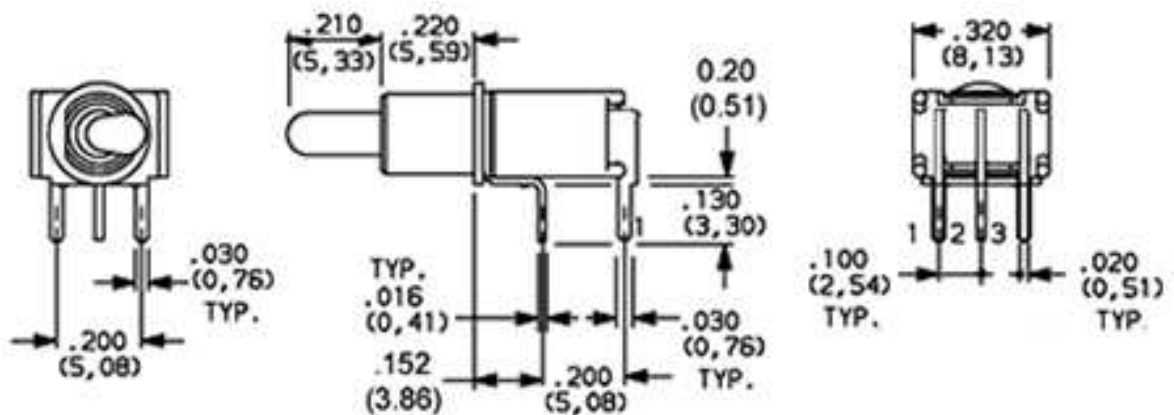
How to order



MA220-T01

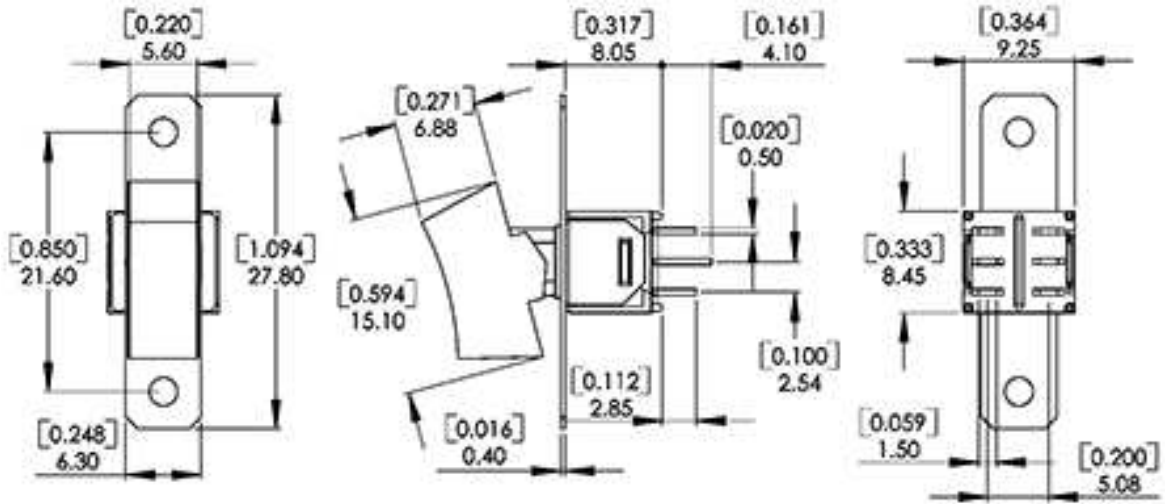


MA113-T03G

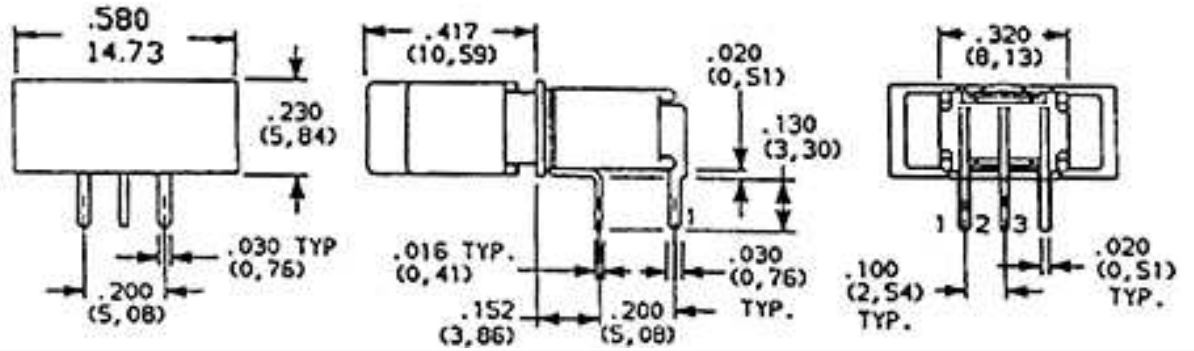




MA210-R01



MA113-R01



MA1 - 1 0 - T 0 1 0





SERIES SYMBOL

MA1	1 POLE	TOGGLE
MA2	2 POLES	
MA11	1 POLE	ROCKER
MA21	2 POLES	

SWITCHING FUNCTION

1	ON-ON
2	ON-OFF-ON
3	ON-(OFF)
4	ON-(ON)
7	OFF-(ON)
8	ON-OFF

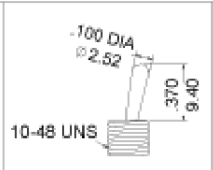
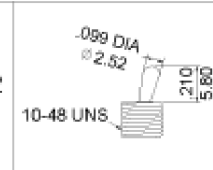


TERMINAL TYPE

0	STANDARD 
1	PRINTED CIRCUIT 
3	RIGHT ANGLE (H) 
4	RIGHT ANGLE (V) 

5	VERTICAL BRACKET 
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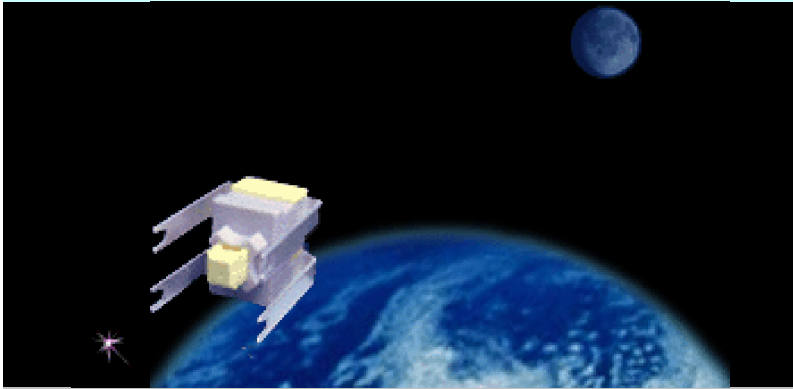
SPECIFICATION

T=TOGGLE, EXAMPLE T01, 02 ...

01		02	
03		R=ROCKER	
		01	

SPECIAL

SPECIAL	
G	TERMINAL GOLD PLATED
M	CONTACT ARM GOLD PLATED
A	SEE TABLE



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[PS5](#)



••••
PCB

16A 125Vac, 16(8), ••••••••

[PB07A](#)



PCB

Keyboard switches for precise instruments, 4P1T

[PS17-1, 2&3](#)



••••

••••, •• 3A 125V"L"

[PS17-5](#)



••••

ON•OFF••, on-(off); off-(on)

[PS17-6](#)



••••

ON•OFF••, on-(off); off-(on)

[PS18](#)



screw

3A 250VAC, ••••, ••••

[PS19](#)



••••
PCB

ON••, off-(on), •• 0.5A 30VDC

[BS580,
701,800,850](#)



PCB

5.8x5.8, 7x7, 8x8, 8.5x8.5, ••••

[PB01, 02](#)



••••

on-off, on/off ••, ••••••••

[PBS](#)



••••

on-off ••, •••

[PS909L](#)



PCB

••DC30V 0.1A ••:2P2T, 4P2T, 6P2T

[PS908L](#)



PCB

••DC30V 2A, DC50V 0.3A, 2P2T

[PS056](#)



••••

••••••, •• 16A 250VAC

[A](#)



••••
••••

••••

[AS](#)



PCB
••••

••••••, ••••

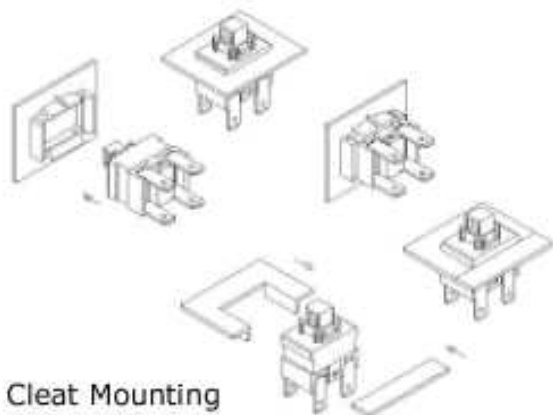
PS-5 SERIES

LOW PROFILE MAIN POWER SWITCHES 16A 250VAC
DPST,SPST, cleat or snap in 13X19mm, illuminated



- 16A 125/250VAC (UL,CUL)
- 16(4)A 250VAC~ T125/55 (VDE, ENEC)
- 16(8)A 250V~T125/55 (VDE, ENEC) optional
- Initial contact resistance : 20m max.
- Insulation resistance : 100M min, at 500VDC
- Dielectric strength : 1,000 VAC for 1 minute
- Base : Nylon 66/PBT, UL rated 94V-2 min
- Actuator : Nylon 66/PC, UL rated 94V-2 min
- Spring : Piano wire
- Contacts : Silver alloy
- Terminal : Silver plated copper

How to order

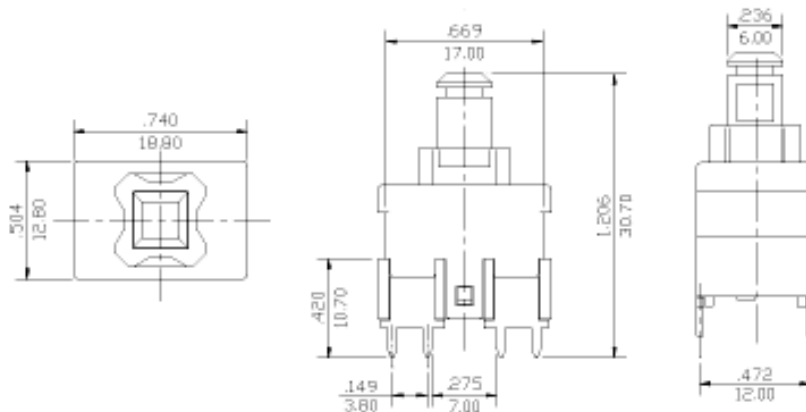


Snap-in Panel Cutout
X=Panel Thickness

X	Dim.Y	Dim.Z
0.75 to 1.25mm	19.2 + 0 / -0.1	12.9 + 0.15 / - 0
1.25 to 2 mm	19.4 + 0 / -0.1	12.9 + 0.15 / - 0
2 to 3 mm	19.8 + 0 / -0.1	12.9 + 0.15 / - 0

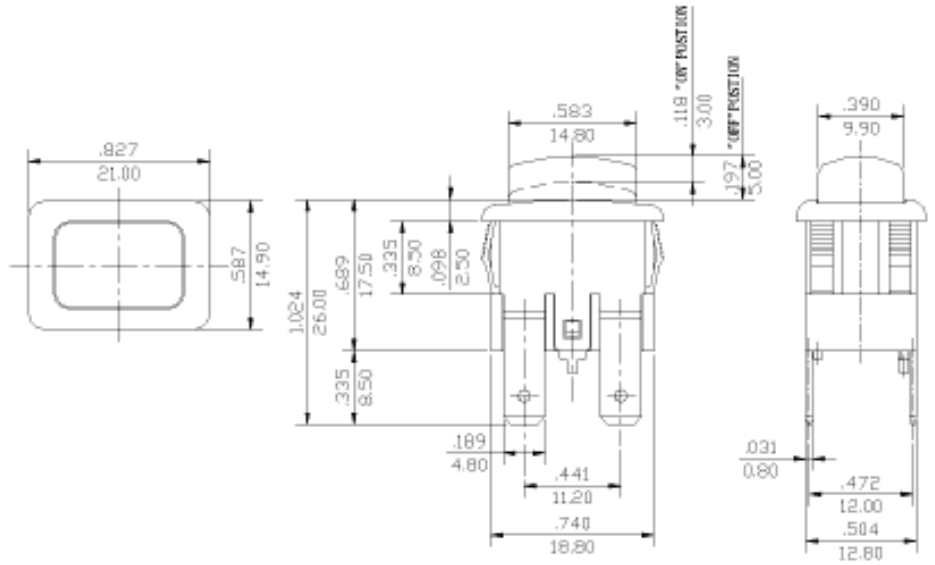


PS5-212-L0

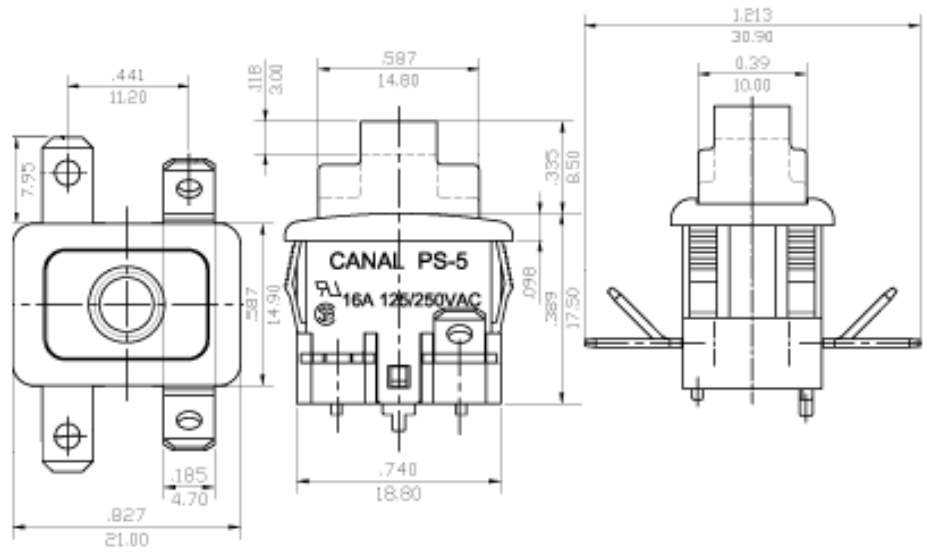




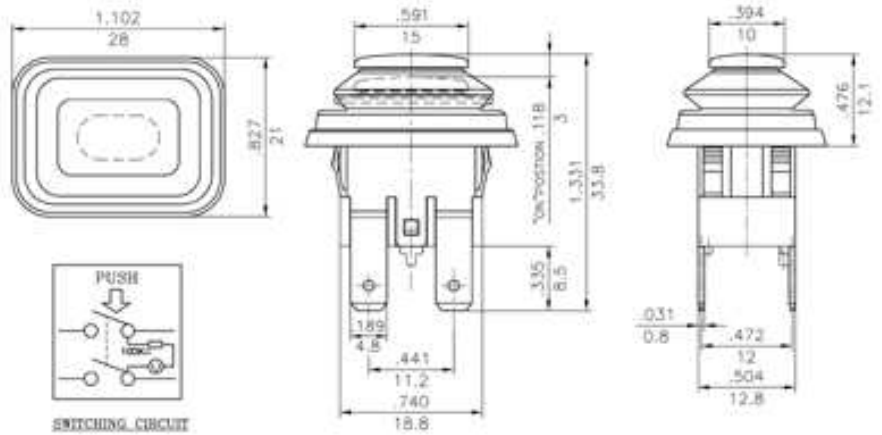
PS5-210-PL-BO-S



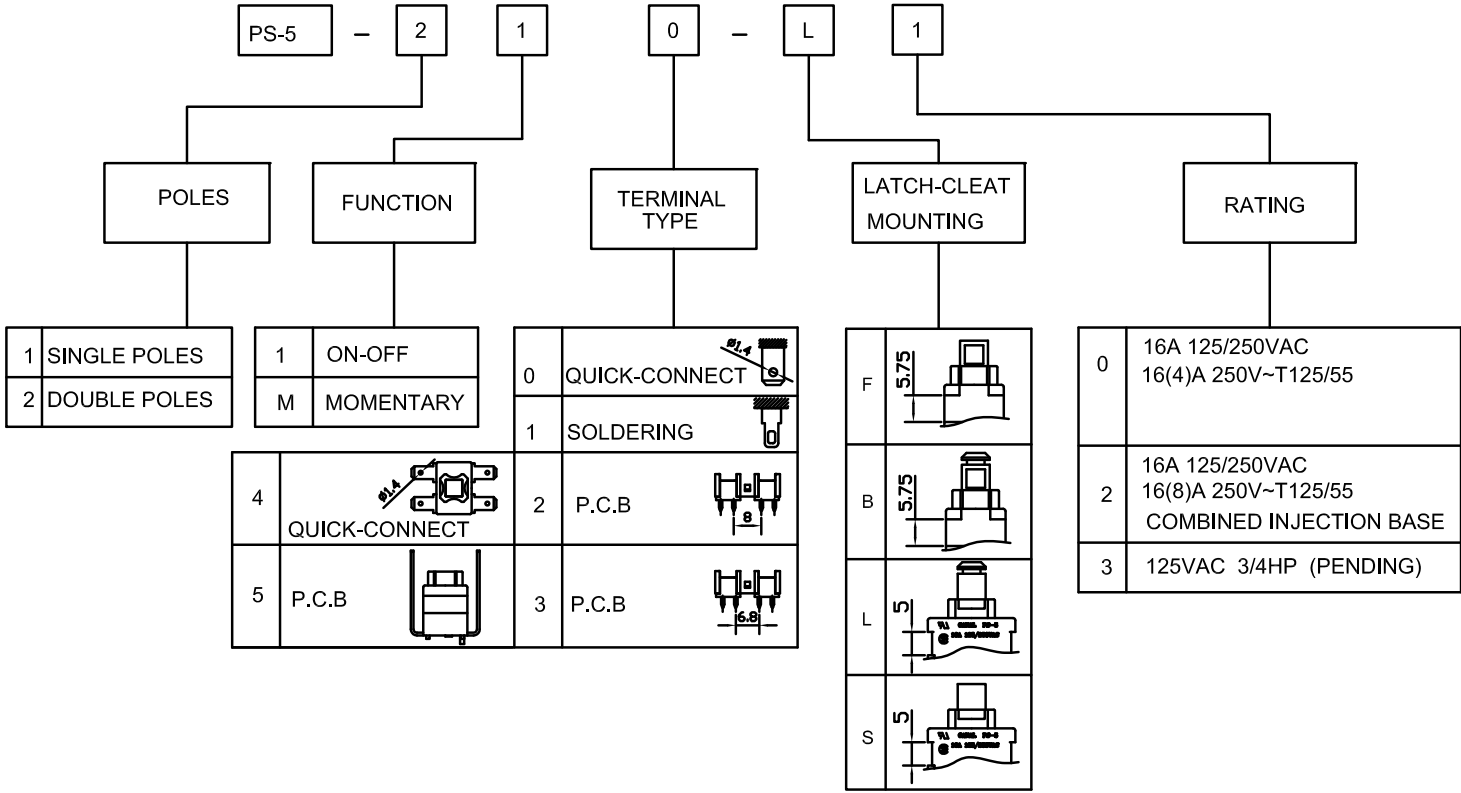
PS5-21A-HL-BB
Built-in Neon bulb



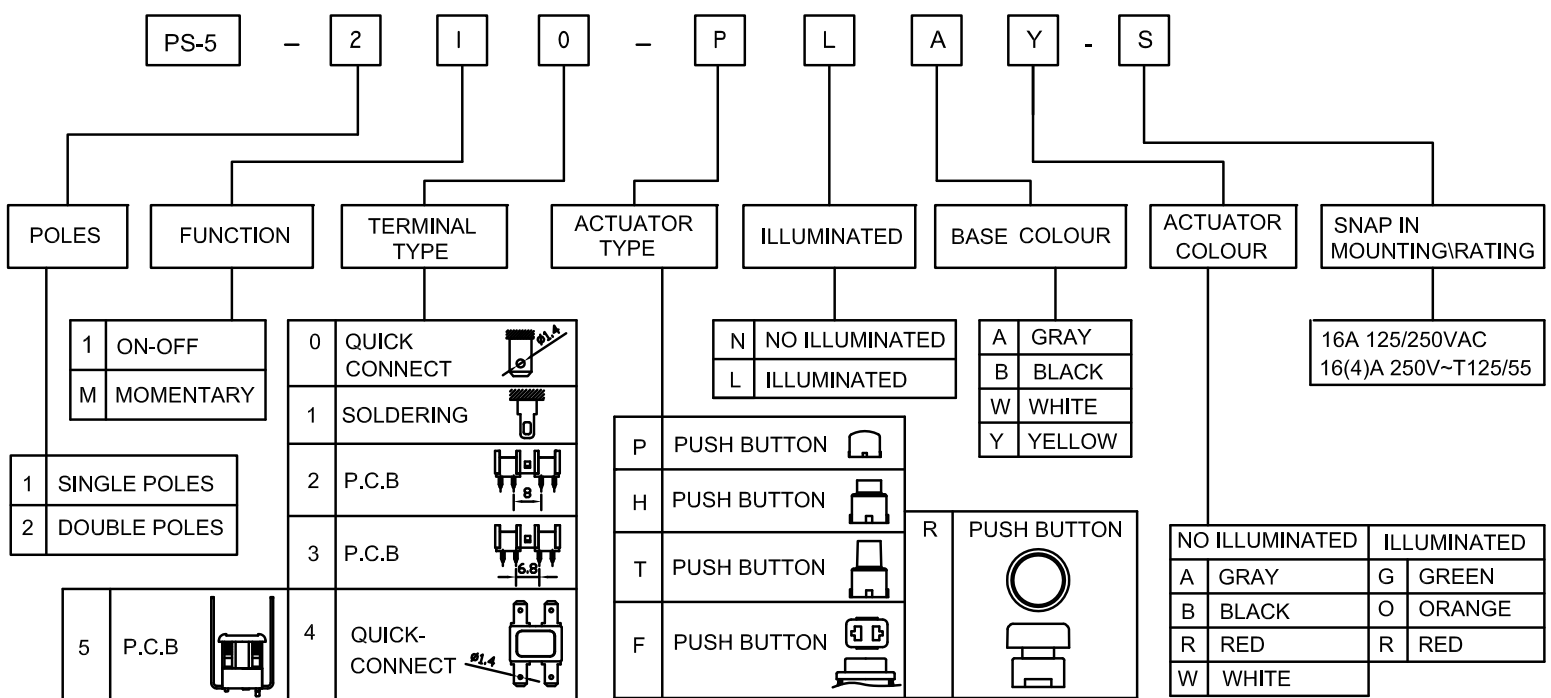
PS5-210-PL-BR-SW



CLEAT FITTING

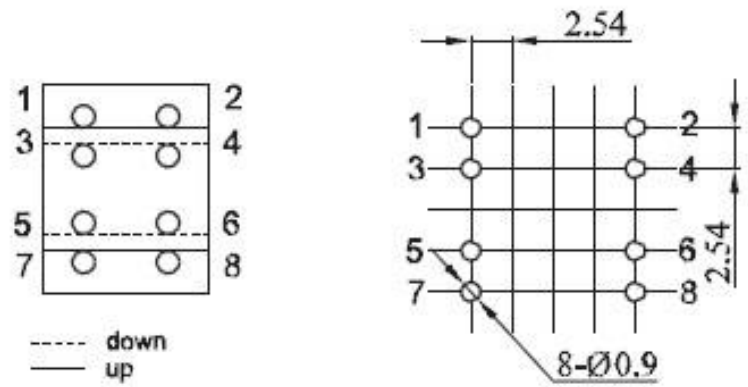


SNAP-IN MOUNTING



PB07A SERIES

KEYBOARD SWITCHES FOR CONTROL PANEL, MOMENTARY OR LOCKING



Circuit & PCB Holes

- 250ma 120V/9W AC/6W DC (Max.)
- Contact resistance : 100m max
- Dielectric strength : 1,000 VAC for 2 minutes
- Insulation resistance : 10M Ohm. Max.
- Life: 500,000cycles for locking type
1,000,000 for momentary types

- Operation force: 250+/-50g
- Temperature: -40~160C
- Housing&Knob: ABS
- Base&Actuator: LCP
- Terminals: Gold-plated brass
- Housing & Knob can be packed separately and assembled by the end customer

To assemble the parts into PB07A

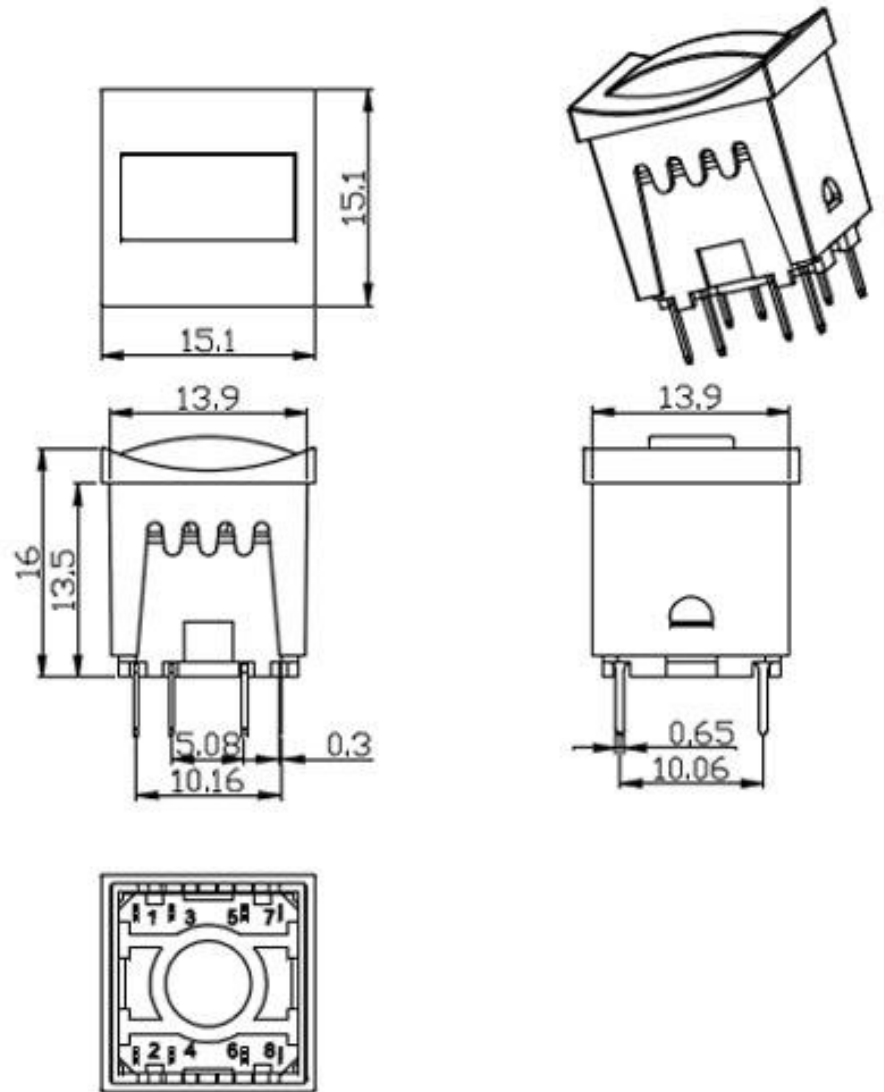


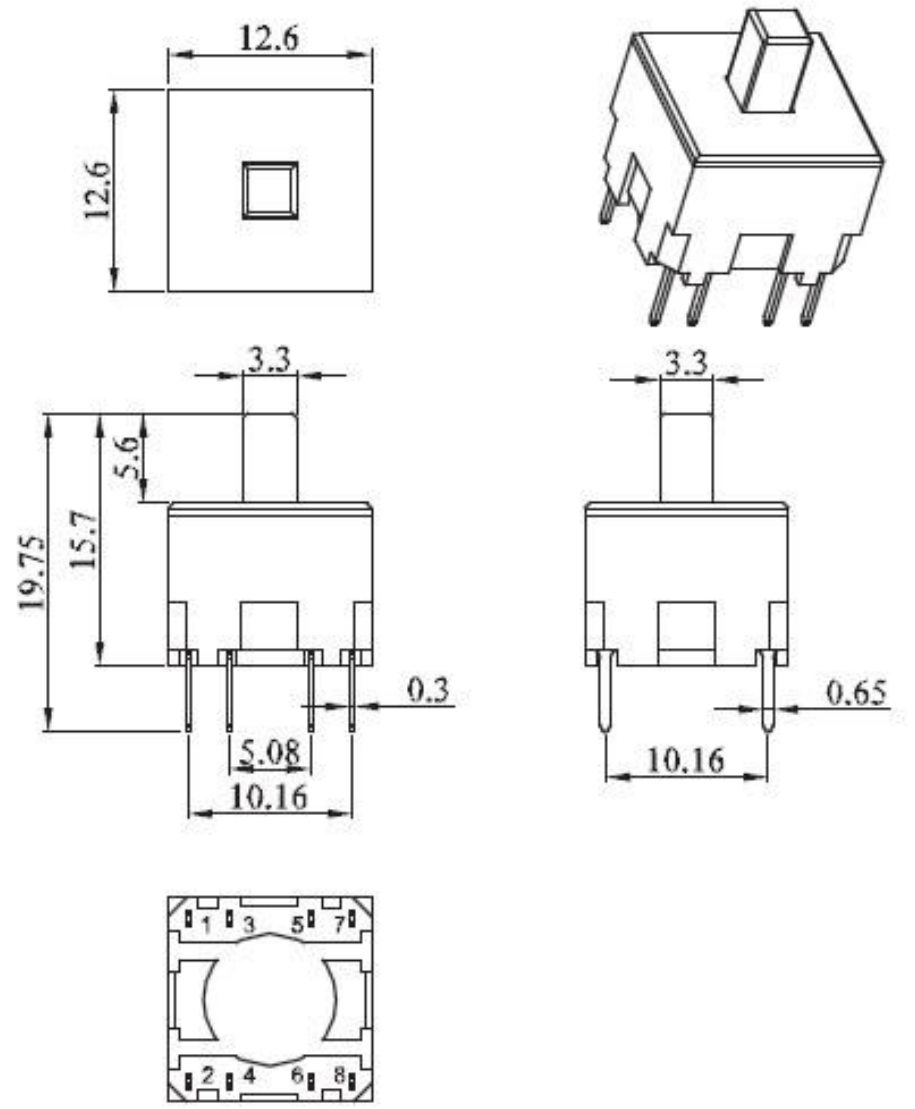
Part No of red switch:
PB07A-BR-ANO (Lock)
PB07A-BR-MNO (momentary)



Part No of green switch:
PB07A-BG-ANO (Lock)
PB07A-BG-MNO (momentary)



Switch Drawing:Base's Drawing:



PS17-1, 2&3 up to 3A 125V



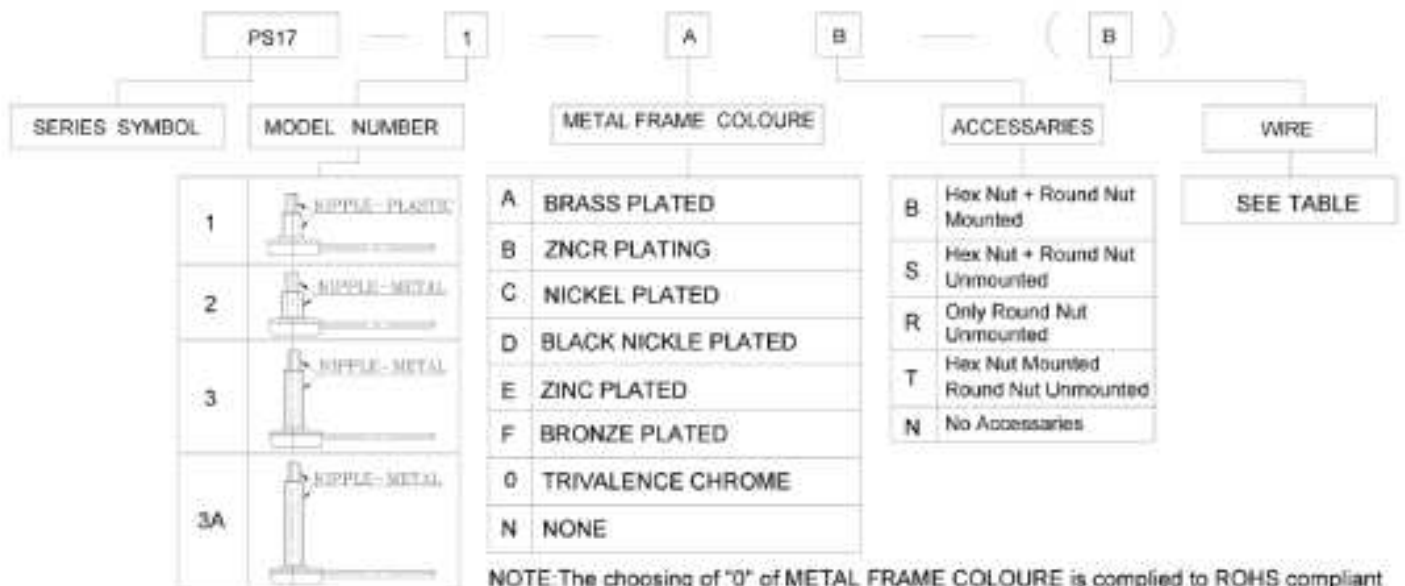
i@

PS17-3 [view drawing](#)

- 3A 125V_i“L_i”, 1A 250VAC (UL)
- Contact resistance : 50m ohm, initial(max.)
- Insulation resistance : DC500V 100M ohm (min.)
- Dielectric voltage-withstand : 1,000 VAC for 1 minute
- Operation force : 400_iÓ 200 gram
- Life cycle : 6,000 cycles
- Temperature range : 0 to + 65 degrees in Celsius
- Base : Phenolic
- Cylinder : Nylon or brass
- Knob : Nylon or brass
- Fixed plate : Nylon or steel
- Spring : Steel wire
- Contact : Copper alloy
- Wires : 18AWG, 105 degrees in Celsius , UL recognized; Wire length customized, end stripped and/or dipped
- Nut : Optional
- Washer : Optional
- Switching function: on-off

i@

How order

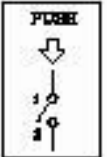
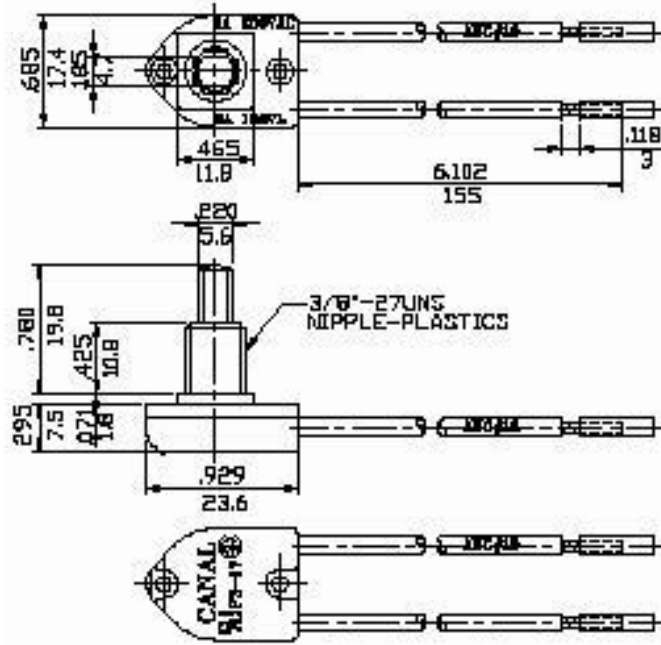


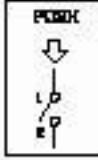
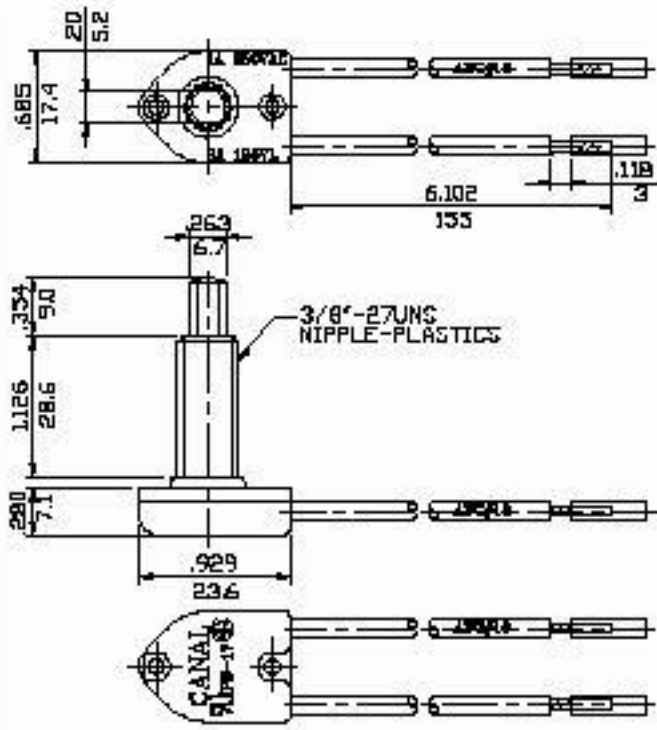


PS17-1



PS17-2





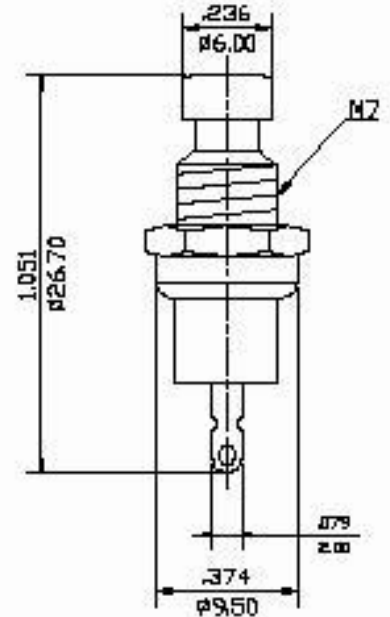
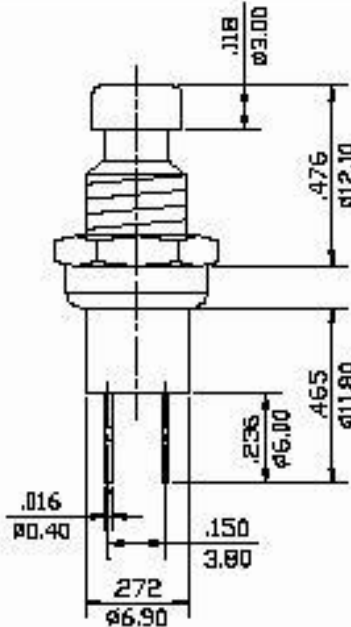
PS17-5 PUSH SWITCH UP TO 1A 125VAC



- Panel mounting, Off-momentary On, or On-Momentary Off
- Rating : 1A 125VAC, 0.5A 250VAC
- Contact resistance : 50m ohm
- Insulation resistance : DC500V 100M ohm (min.)
- Dielectric voltage-withstand : 1,000 VAC for 1 minute
- Operation force : 200;Ó100 gram
- Life cycle : 10,000 cycles
- Temperature range : 0 to + 65 degrees in Celsius
- Washer : Brass
- Nut : Steel
- Cap : ABS, optional knob and color
- Shaft : Brass
- Body : Phenolic
- Terminal : Brass

PS17-5A
PUSH ON

PS17-5B
PUSH OFF

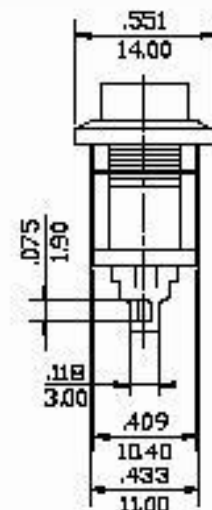
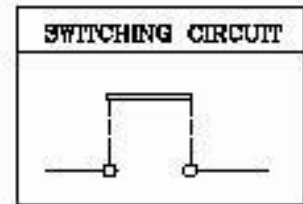
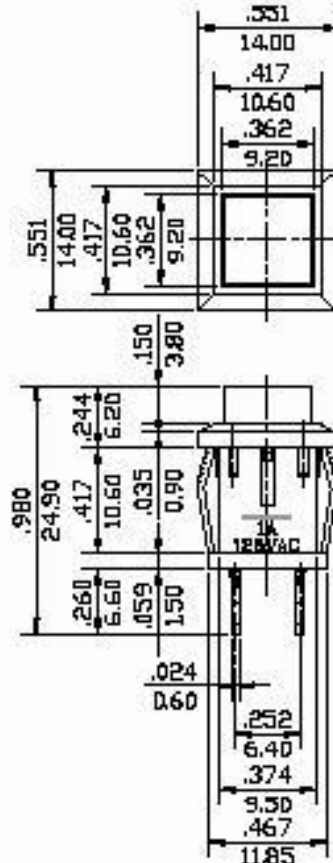
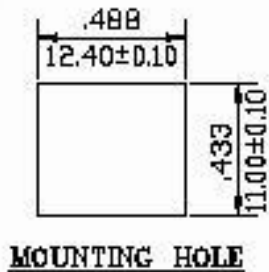


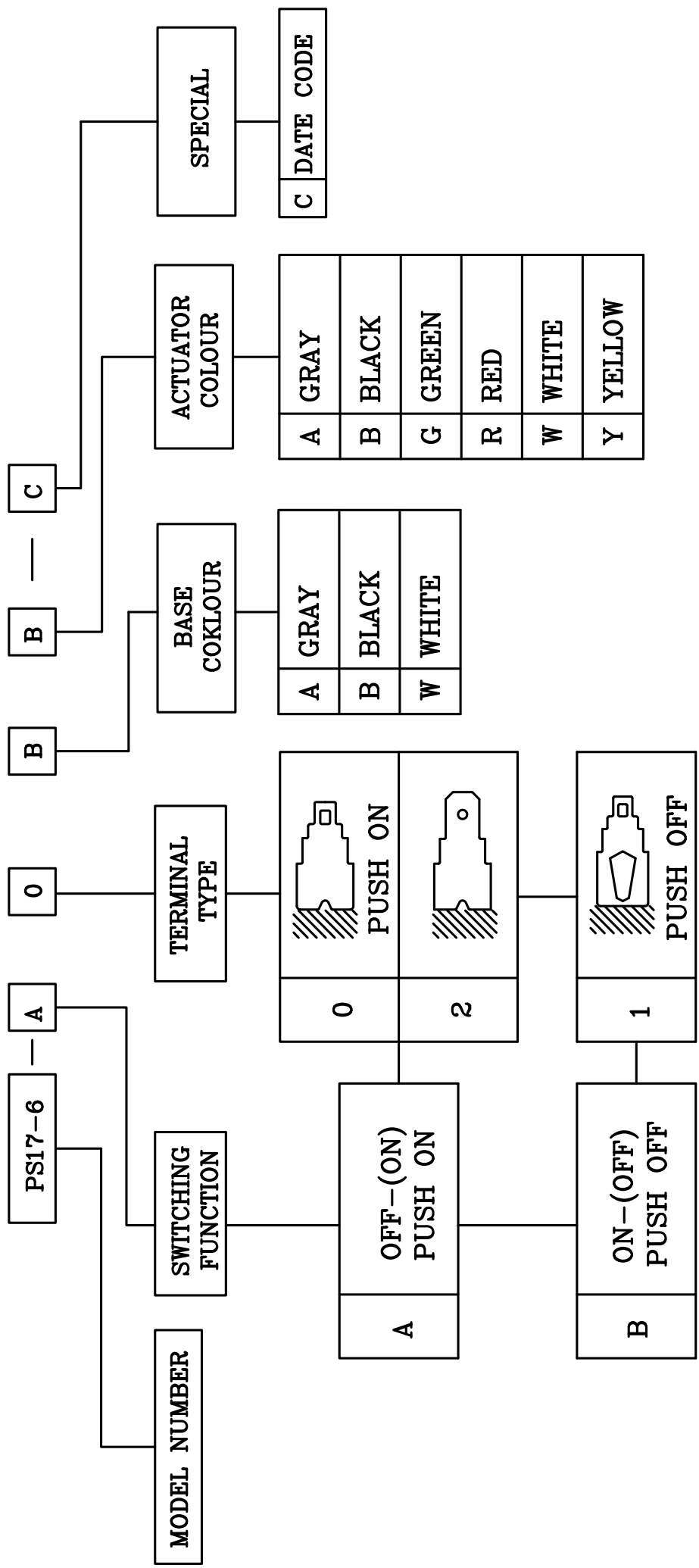
PS17-6, push switch 3A 125VAC, Off-momentary On, or On-Momentary Off



- Rating : 1A 125VAC
- Contact resistance : 20m ohm
- Insulation resistance : DC500V 100M ohm (min.)
- Dielectric voltage-withstand : 1,000 VAC for 1 minute
- Operation force : 250±100 gram
- Electrical life : 3,000 cycles
- Temperature range : 0 to + 65 degrees in Celsius
- Base : Nylon 94V-2
- Knob : Nylon 94V-2, red, gray or optional color
- Terminal : Brass
- Spring: Piano wire
- Contact : Silver plated brass or copper
- gold plating optional

How to order





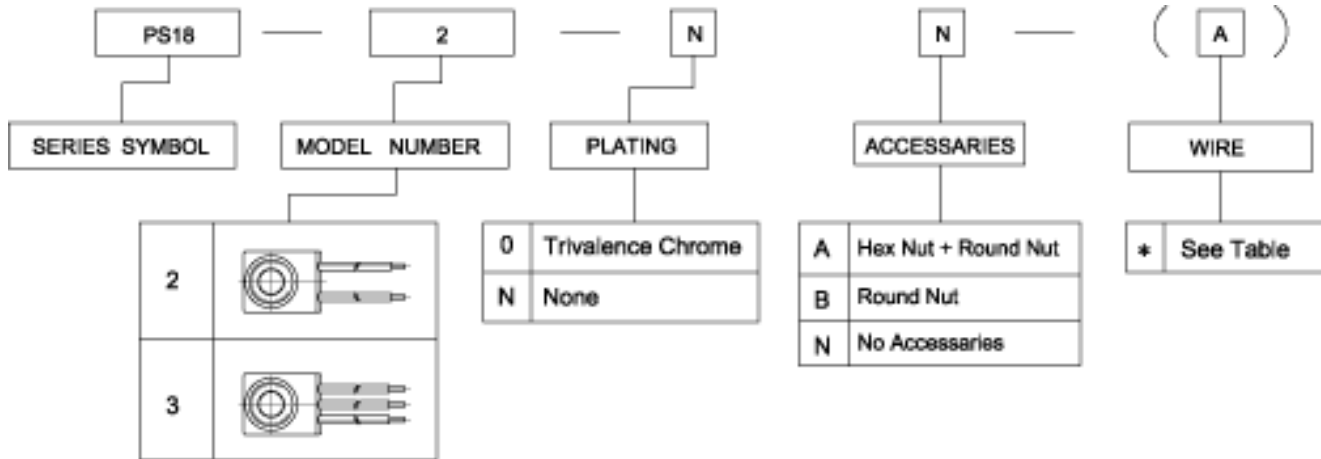
PS18 SERIES

Push-Button Switches up to 3A 250VAC, Rugged, Long Life, Low Cost



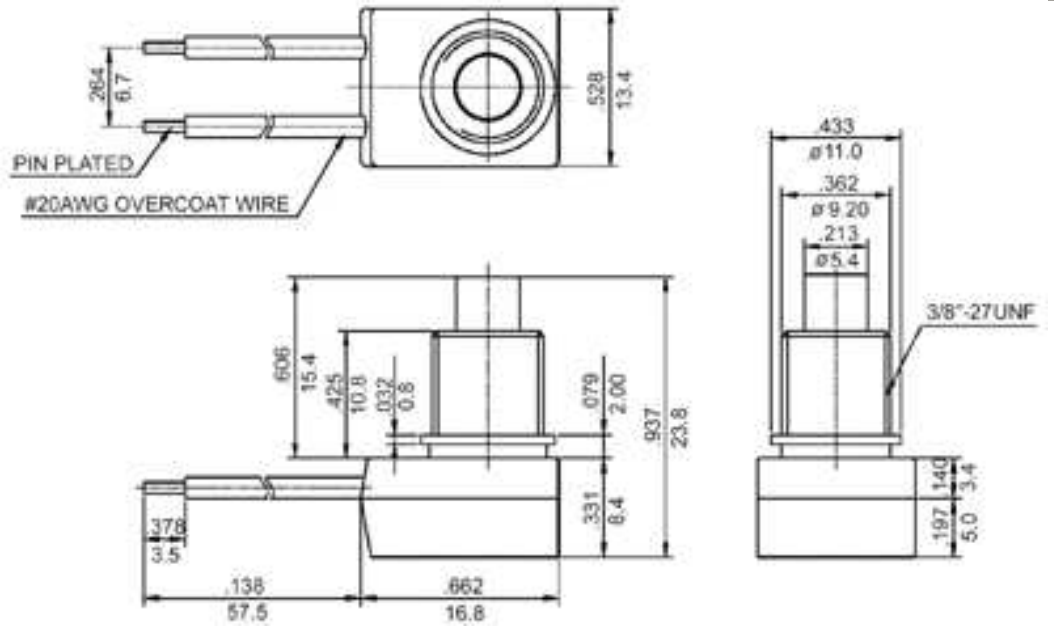
- Rating: DC 12V 1mA.
- Contact resistance : 50m ohm max.
- Insulation resistance:100M ohm (min) DC500V
- Dielectric withstanding voltage : 1000AC for 1 minutes.
- Operation force : 400 ~ 800 (Gram)
- Actuator : POM (UL rated 94V-2 min).
- Base : POM (UL rated 94V-2 min).
- Case : POM (UL rated 94V-2 min).
- Roller : POM (UL rated 94V-2 min).
- Terminal : copper.
- Terminal : Silver or tin plated copper alloy.
- Wire : 1332#20AWG teflon.
- Spring : Piano wire

How to order





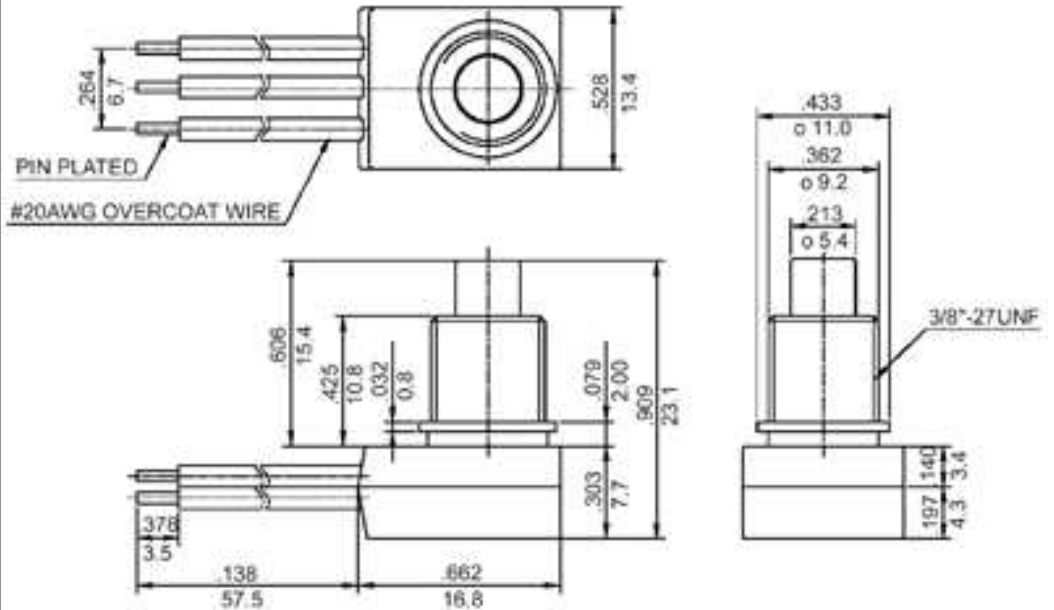
PS18-2-NN



i@



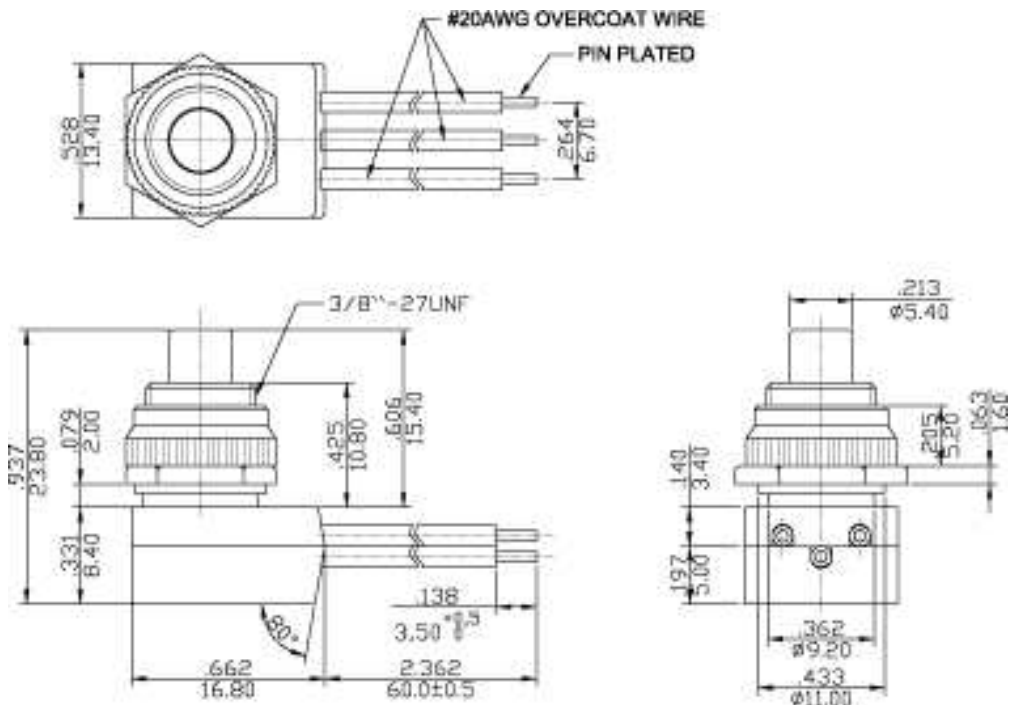
PS18-3-NN



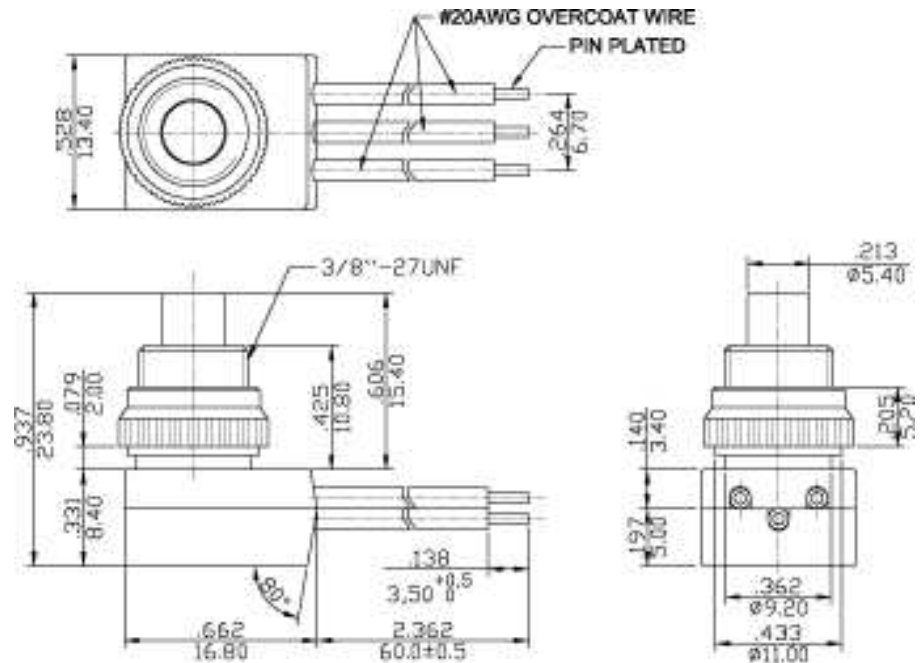
i@



PS18-3-0AB



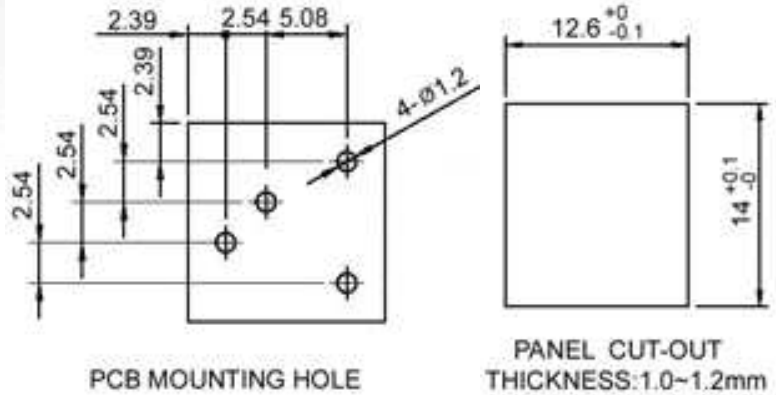
PS18-3-0BB



PS19 SERIES

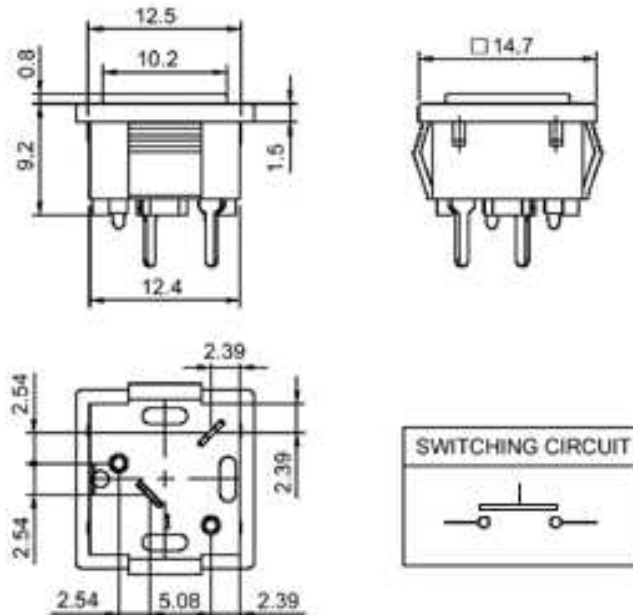
PUSHBUTTON SWITCHES UP TO 0.5A 30VDC

@PCB OR PANEL MOUNTING



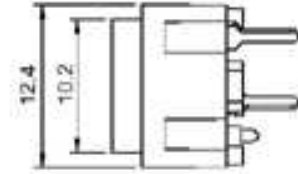
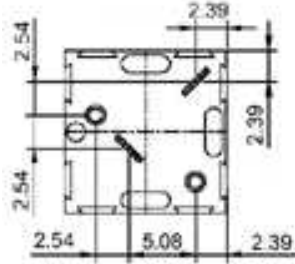
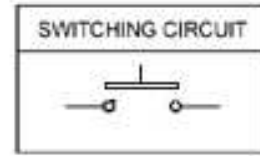
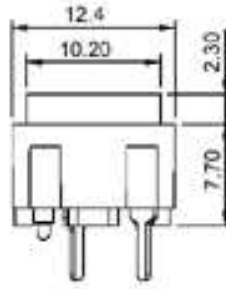
- Current : 0.25A
50VDC/125VAC, 100,000cycles. 0.5A 30VDC, 10,000cycles.
- Insulation resistance : 100M ohm min.
- Total travel : 0.45±0.15mm.
- Contact resistance : 150m ohm max.
- Dielectric withstanding voltage : 1000VAC for 1 minutes.
- Actuator : ABS (UL rated 94V-2 min).
- Body : PBT (UL rated 94V-2 min).
- Snap dome : Nickel plated stainless steel.
- Terminals : Silver plated copper.

@
@



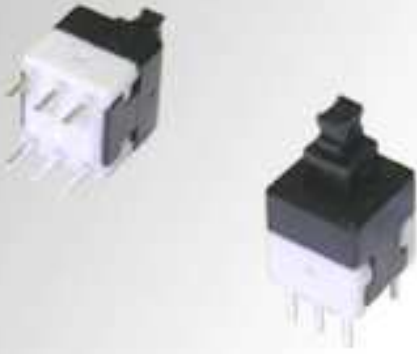
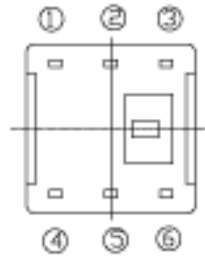
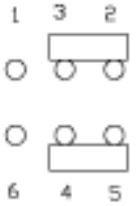


PS19-1



BS580 BS701 BS800 BS850 - SERIES

5.8x5.8, 7x7, 8x8, 8.5x8.5 Push Switch up to DC 30V 0.3A, Lock or Momentary

SCHEMATICFREEPUSH

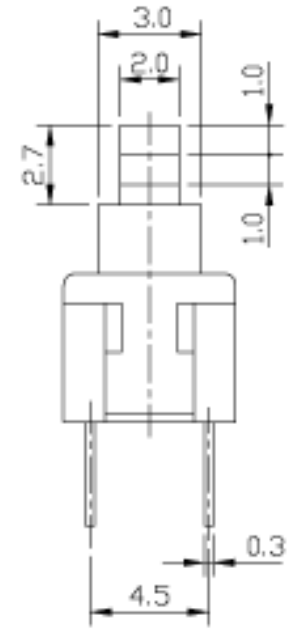
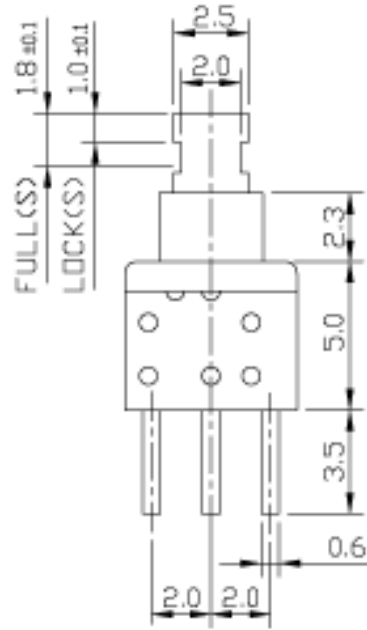
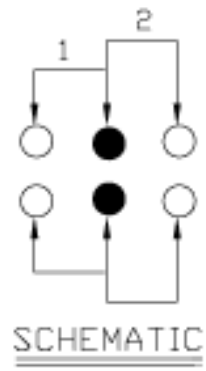
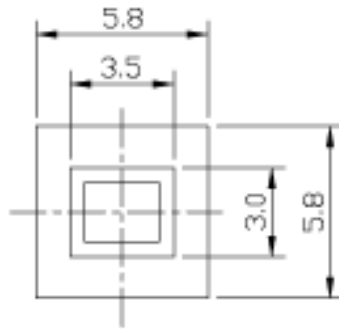
- DC30V 0.1A (BS580,BS701,BS800)
- DC30V 0.3A, DC16V 0.5A (BS850)
- Contact resistance : 50m ohm .
- Insulation resistance : 100M ohm min.
- Withstand voltage : AC125V 1 minute.(BS580,BS701)
- Withstand voltage : AC250V 1 minute.(BS800,BS850)
- Soldering temper : 245 ± 5°C 3 Sec

- Mechanical life : 100,000 cycles
- Life cycle : 10,000 cycles
- Operating temper. Range : -25°CXC + 65°CXC
- Ambient humidity range : Less than 85%RH
- Operation : 160 ± 80 gf.

How to order

BS	-	800	-	N
		Housing Dim.		
580		5.8x5.8mm	N	Momentary
701		7.0x7.0mm	L	Lock
800		8.0x8.0mm		
850		8.5x8.5mm		

BS-800-N



PB01 and PB02 SERIES

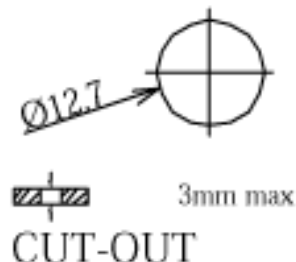
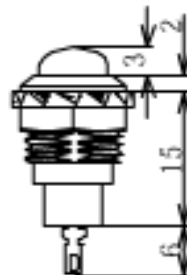
Small Round Push Switches, up to 6A 125VAC, Metal or Plastic Bezel

How to order

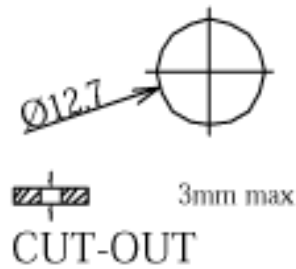
i@



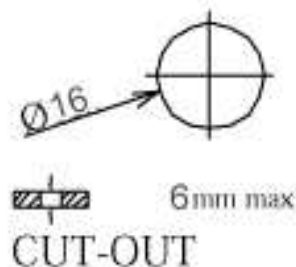
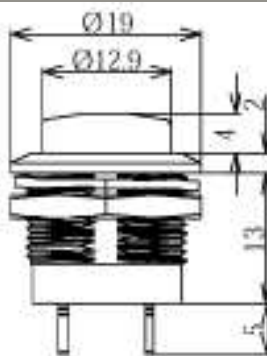
Model: PB-01-PP-R
3A 125VAC
1.5A 250VAC
Plastic Bezel



Model: PB-01-MM-R
3A 125VAC
1.5A 250VAC
Metal Bezel

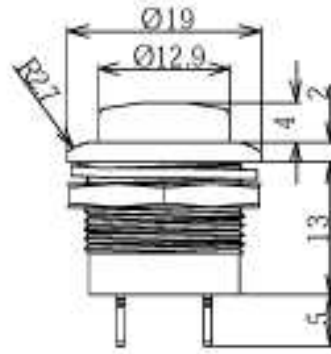


Model: PB-02-PM-R
6A 125VAC
3A 250VAC
Plastic Bezel





Model: PB-02-MM-G
6A 125VAC
3A 250VAC
Metal Bezel



PBS-series, Push switch up to 1A 125VAC, on-off, off-momentary on, or on - momentary off

- Rating : 1A 125VAC, 1A 250VAC
- Contact resistance : 30m ohm (max)
- Insulation resistance : DC500V 100M ohm (min.)
- Dielectric voltage-withstand : 1,000 VAC for 1 minute
- Operation force : >300g
- Life cycle : 5,000 cycles
- Actuator : Optional color; Red, Yellow, Orange, Black, Green
- Terminal : Copper Alloy
- Switching function : on-off, off-momentary on, or on - momentary off



[PBS-11, view drawing](#)



[PBS-12, view drawing](#)



[PBS-14, view drawing](#)



[PBS-16, view drawing](#)

PBS-11A

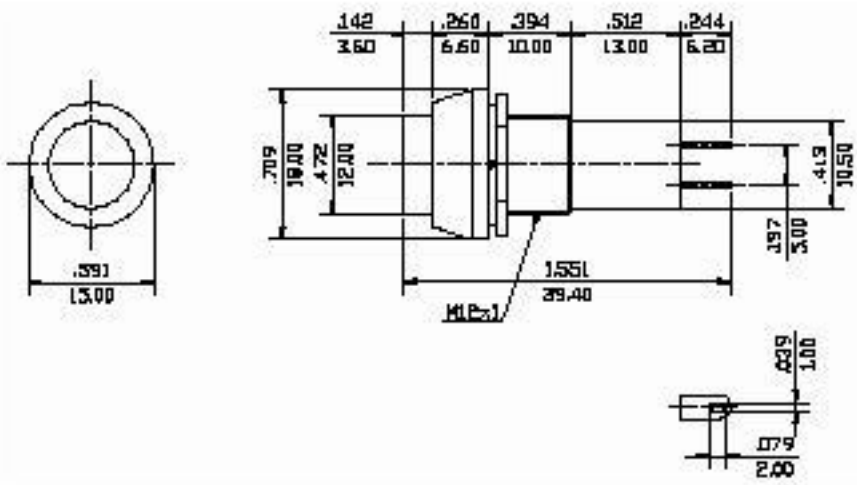
ON-OFF

PBS-11B

OFF-(ON)

PBS-11C

ON-(OFF)



PBS-12A

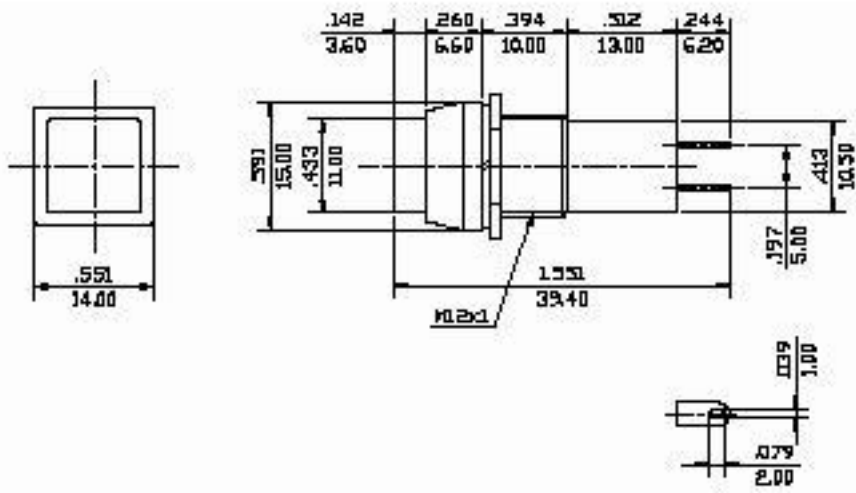
ON-OFF

PBS-12B

OFF-(ON)

PBS-12C

ON-(OFF)



PBS-14A

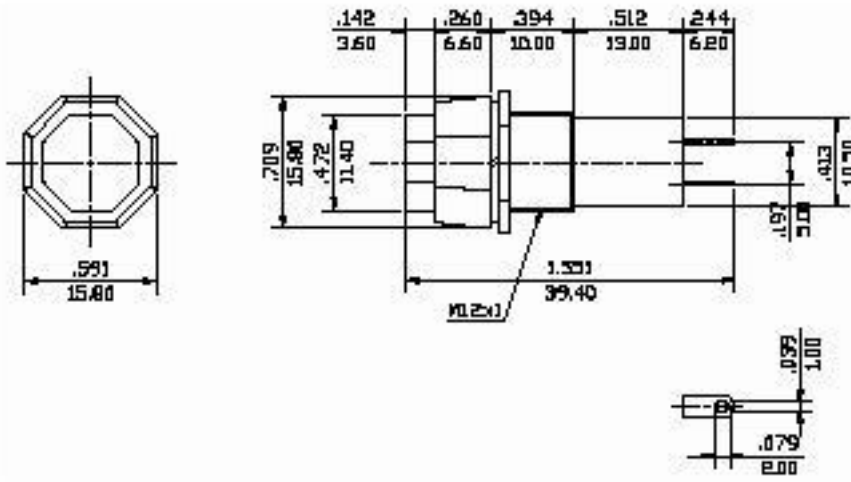
ON-OFF

PBS-14B

OFF-(ON)

PBS-14C

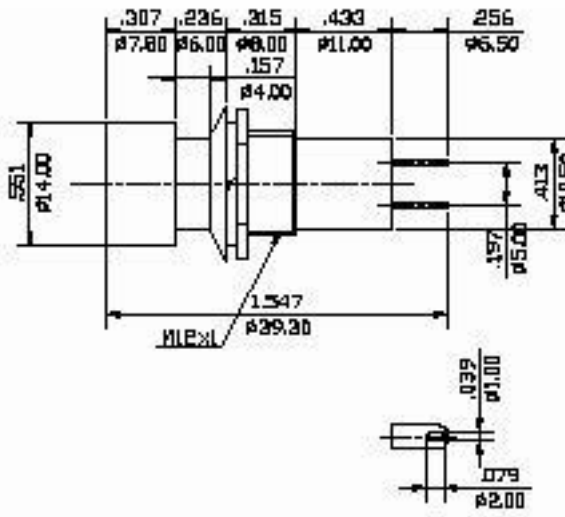
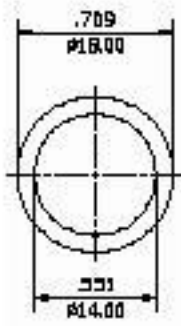
ON-(OFF)



PBS-16A
ON-OFF

PBS-16B
OFF-(ON)

PBS-16C
ON-(OFF)



PS909L SERIES

MINIATURE PUSHBUTTON SWITCHES UP TO DC30V 0.1A
2P2T, 4P2T, 6P2T available



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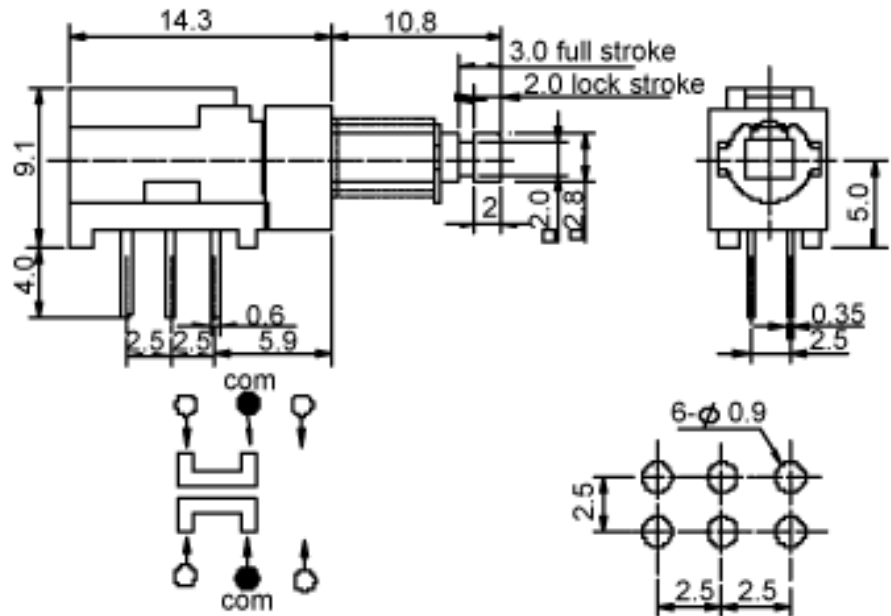
- Rating : DC30V 0.1A
- Insulation Resistance: $\geq 100M\Omega$ DC250V
- Withstand Voltage: AC 250V 1 minute
- Contact Resistance: $< 50 m\Omega$
- Soldering Temperature: 250°C max.3sec
- Mechanical Life: 30,000 cycles
- Electrical Life: 10,000 cycles
- Electrical Life: 10,000 cycles
- Ambient Temperature Used: -10°C to +60°C
- Ambient Humidity Used : $< 85\%$ RH
- Operating force: 100 to 400 gf

-10



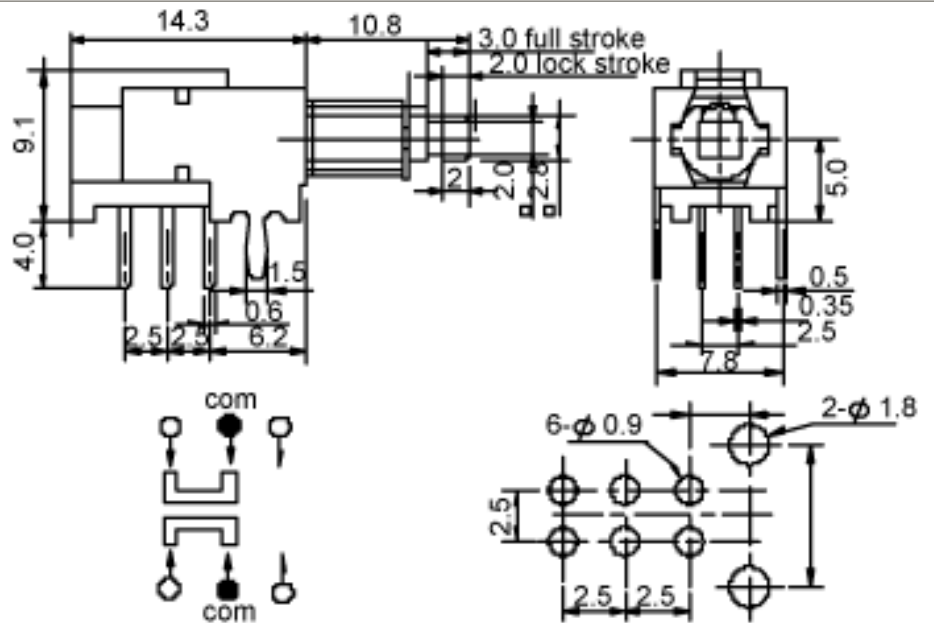
PS909L-22
DPDT

i@

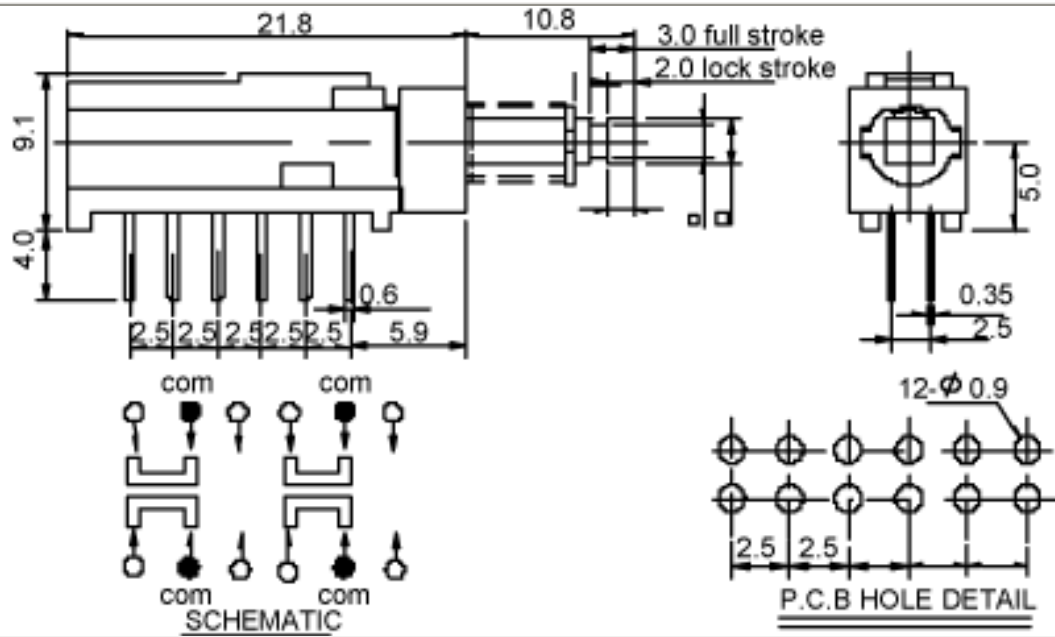




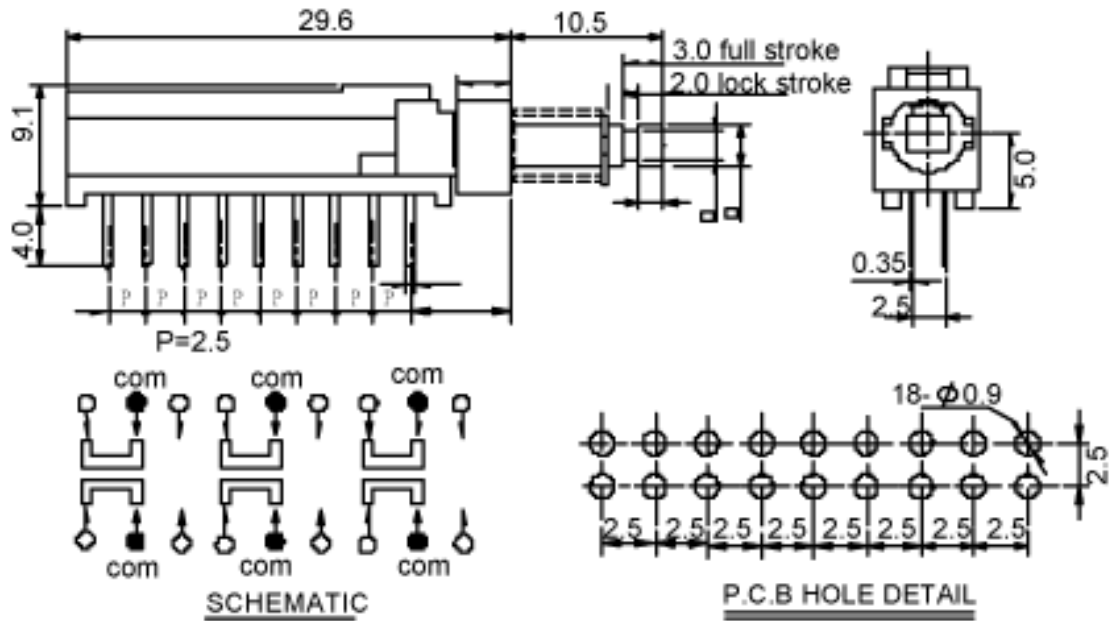
PS909L-22-G
DPDT



PS909L-42
4P2T



PS909L-62
6P2T
i@



AP22909
Cap for PS909L



AP22909-GR (Gray)
AP22909-BR (Black)

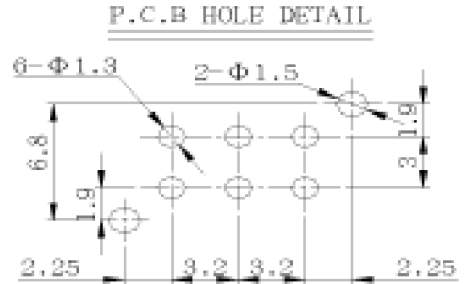


AP22909-WC (white)
AP22909-BC (Black)

i@

PS908L SERIES

PUSH SLIDE SWITCHES UP TO DC30V 2A 2P2T

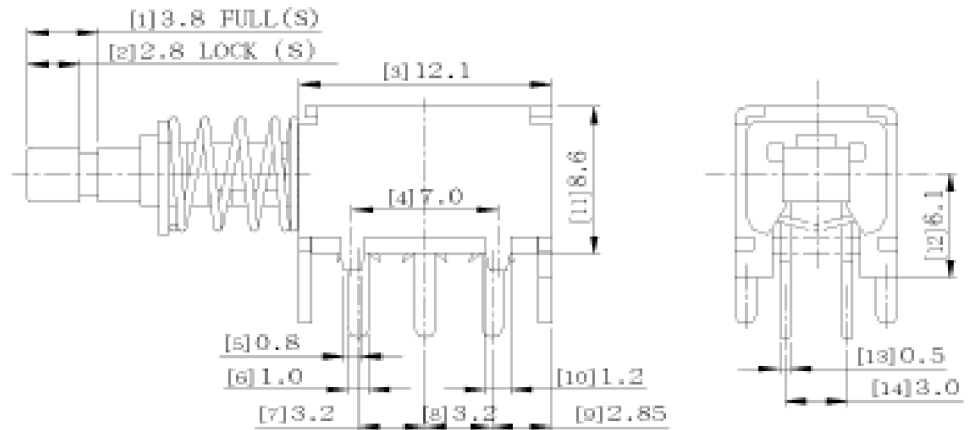


- Rating : DC30V 1A /2A, DC50V 0.3A
- Insulation Resistance: $\geq 100M\cdot DC250V$
- Withstand Voltage: AC 250V 1 minute
- Contact Resistance: $< 50 m\cdot$
- Soldering Temperature: 260°C max.3sec
- Mechanical Life: 10,000 cycles
- Electrical Life: 10,000 cycles

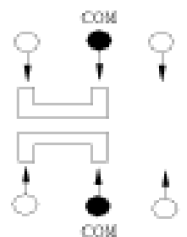
- Ambient Temperature Used: -10°C to 60°C
- Ambient Humidity Used : $< 85 \% RH$
- Operating force: 300+/-100gf

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PS908L-22
DPDT
i@



SCHEMATIC



AP22908



(Cap for PS908L)

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PS056 SERIES

DOUBLE POLE MICRO SWITCHES, UP TO 16A 250VAC
MOMENTARY TYPE, ON-(ON), OFF-(ON) or ON-(OFF)

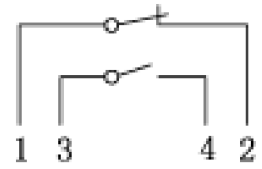
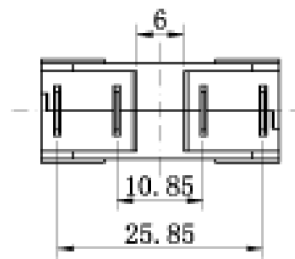
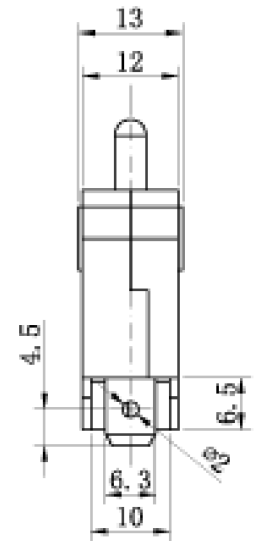
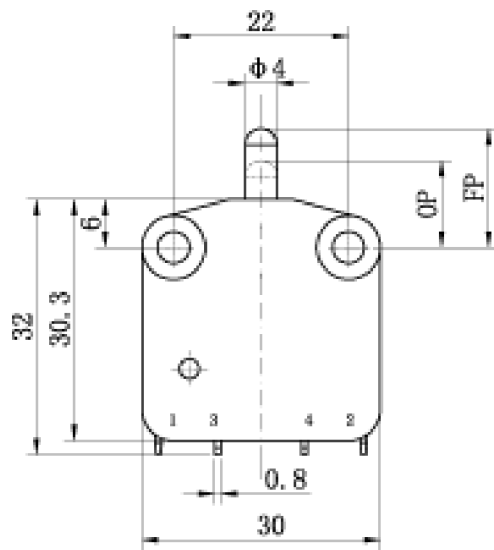


- 16A 250VAC (UL/CUL)
- 1/2HP 125/250VAC(UL/CUL)
- 16(6)A 250V ~ T140 5E4 (VDE,ENEC)
- Contact resistance : 50m ohm initial (max.)
- Dielectric strength : AC1500V for 1 minute
- Insulation resistance : 100M ohm min.(at 250 VDC).
- Mechanical life cycle : 100,000
- Loaded life cycle : 10,000
- Temperature range : -25 to + 140 degrees in Celsius
- Free position:16.3;±0.5mm.
- Operating position:13;±0.5mm
- Soldering temper: 240±XC 10 Sec (max)
- Button: PBT
- Upper housing: PBT
- Spring: SUS 304
- Change plate: Brass
- Contact: Silver alloy
- Lower housing: PBT
- Terminal: Brass



PS056-01N-200

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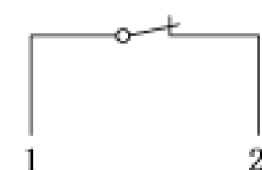
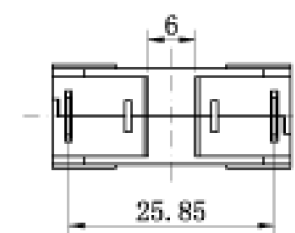
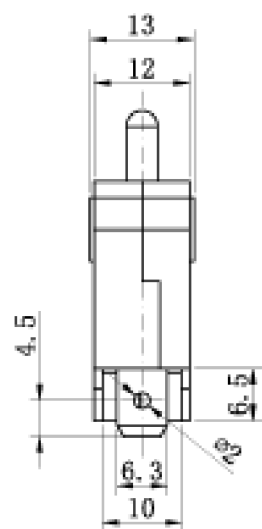
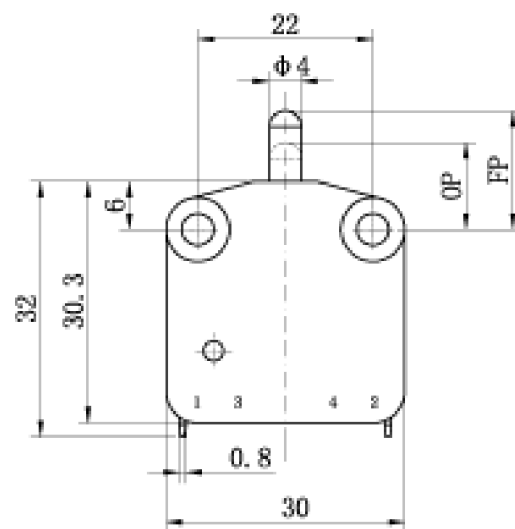


SCHEMATIC

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PS056-01N2-100

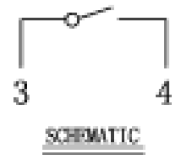
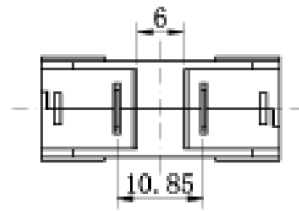
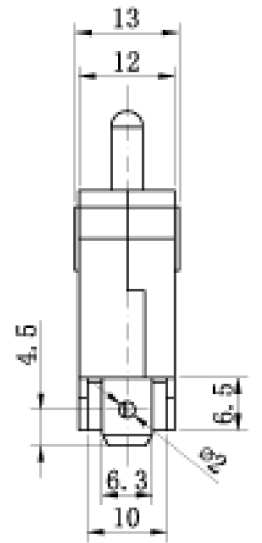
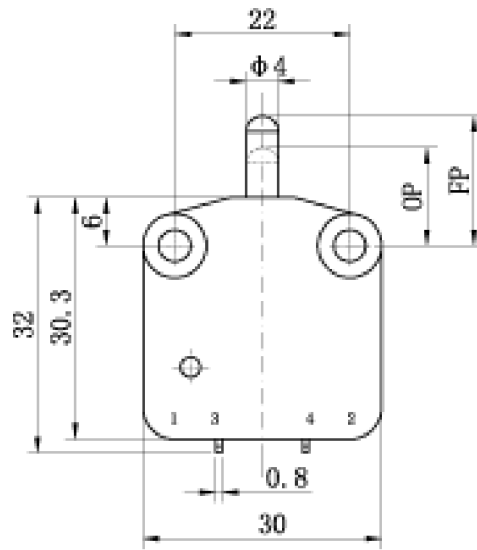


SCHEMATIC

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PS056-01N3-200



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A SERIES

Miniature push switches up to 5A 120VAC

- 5A 120VAC, 2A 250VAC
- 5A 28VDC
- Initial contact resistance : 10m ohm (max.)
- Insulation resistance : 1000M ohm (min)
- Dielectric strength : 1,000VAC for 1 minute
- Life cycle : 50,000 cycles
- Operating temperature : -30 to +130 degrees in Celsius
- Base : Diallyl phthalate (DAP)
- Push actuator : PBT
- Bushing : Brass, nickel plated
- Gasket: nickel-plated steel
- Nuts: Brass, nickel plated
- Housing : Stainless steel.
- Terminals : silver plated brass or gold plated optional
- Contact : Silver plated copper, gold plated optional
- Epoxy sealed optional

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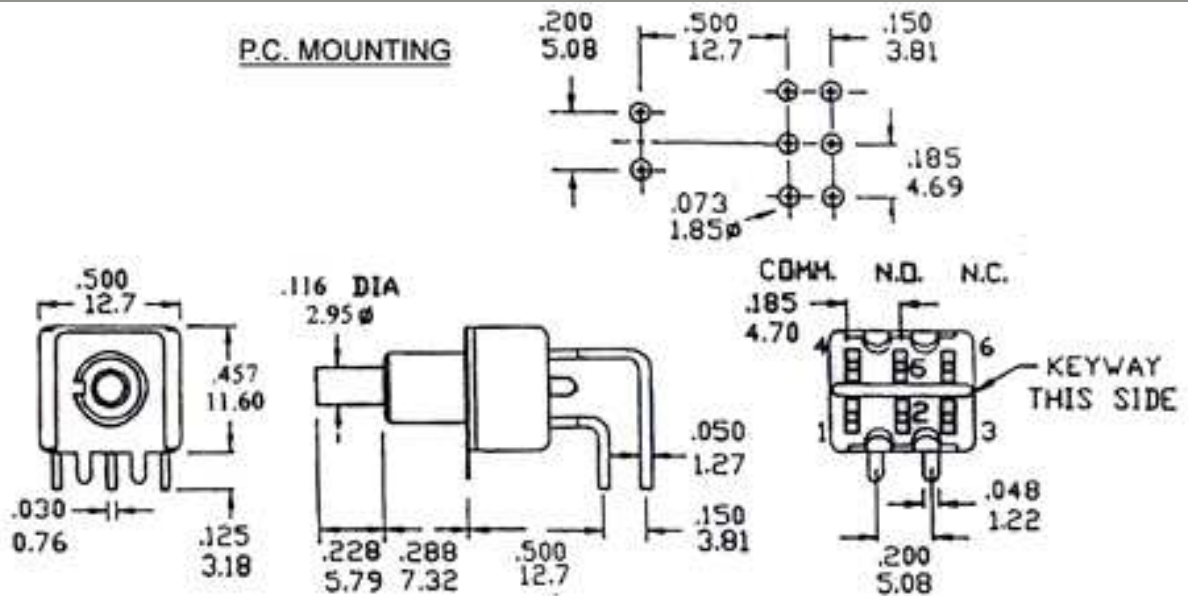
i@

[How to order](#)

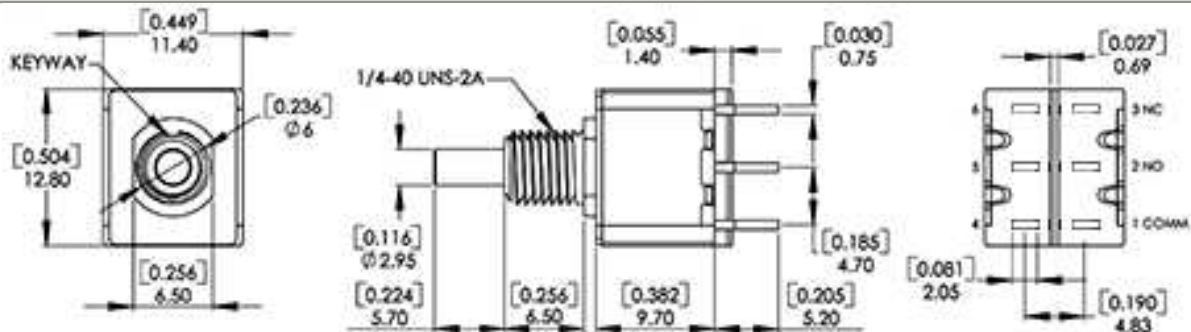


A2P43-P02

P.C. MOUNTING

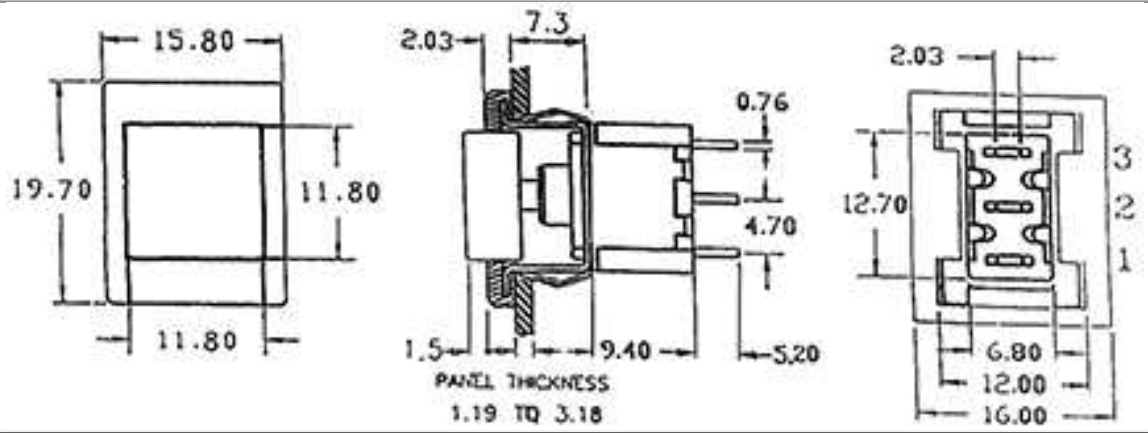


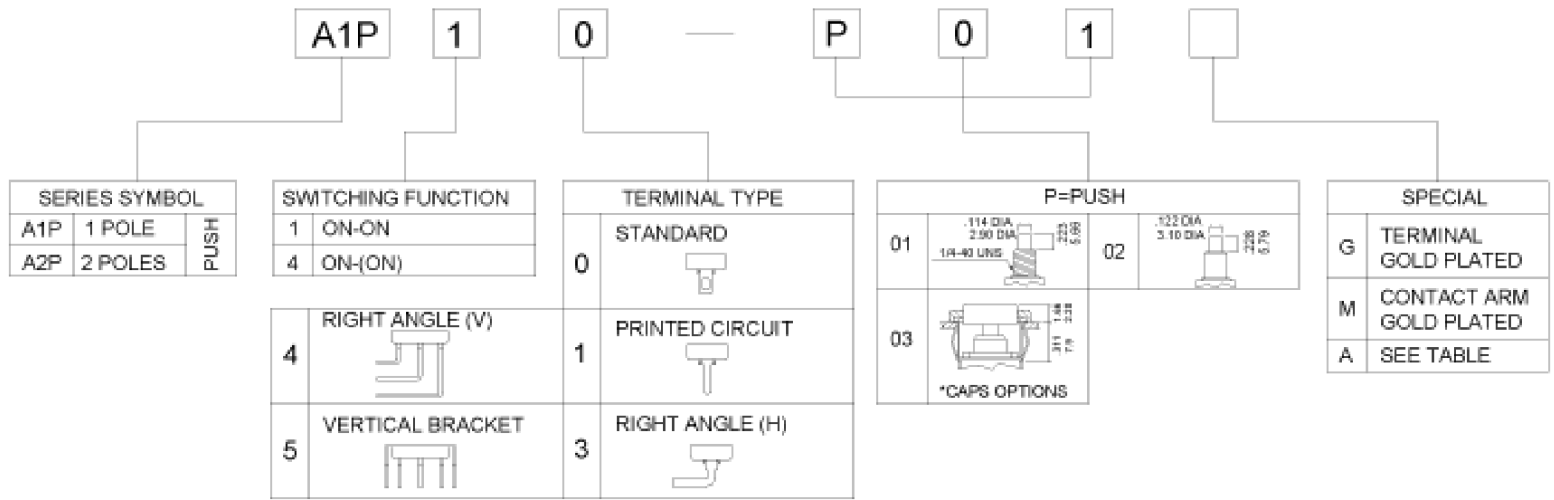
A2P40-P01





A1P40-P03





SERIES SYMBOL		
A1P	1 POLE	PUSH
A2P	2 POLES	

SWITCHING FUNCTION	
1	ON-ON
4	ON-(ON)

RIGHT ANGLE (V)	
4	

VERTICAL BRACKET	
5	

TERMINAL TYPE	
0	STANDARD

PRINTED CIRCUIT	
1	

RIGHT ANGLE (H)	
3	

P=PUSH			
01	 .114 DIA 2.90 DIA 1/4-40 UNS	02	 .122 DIA 3.10 DIA
03	 *CAPS OPTIONS		

SPECIAL	
G	TERMINAL GOLD PLATED
M	CONTACT ARM GOLD PLATED
A	SEE TABLE

AS SERIES

Subminiature Momentary Push Switches up to 1A 120VAC , Screw or PCB mounting








i@

- 1A 120VAC, 1A 28VDC
- Initial contact resistance : 20m ohm (max.)
- Insulation resistance : 1000M ohm (min)
- Dielectric strength : 1,000VAC for 1 minute
- Life cycle : 30,000 cycles
- Operating temperature : -30 to +130 degrees in Celsius
- Base : diallyl phthalate (DAP)
- Push actuator : Thermoplastic Polyester-black
- Bushing : Brass, nickel plated
- Gasket: nickel-plated steel
- Nuts: Brass, nickel plated
- Housing : Stainless steel.
- Terminals : silver plated brass, gold plated optional; right-angle bending vertically or horizontally available
- contact : Brass silver or gold plated optional
- Switch functions:
 - AS-01: Off-Momentary On SPST
 - AS-02: On-Momentary On, SPDT

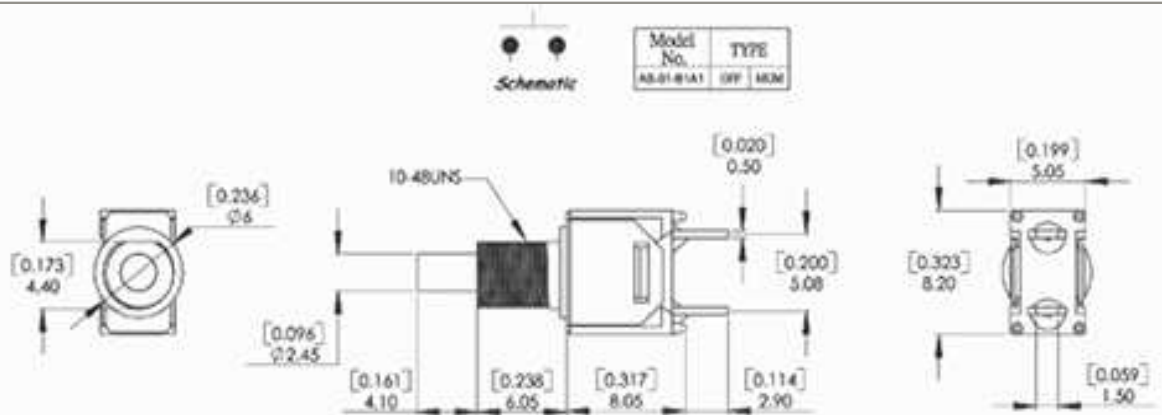
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How to order

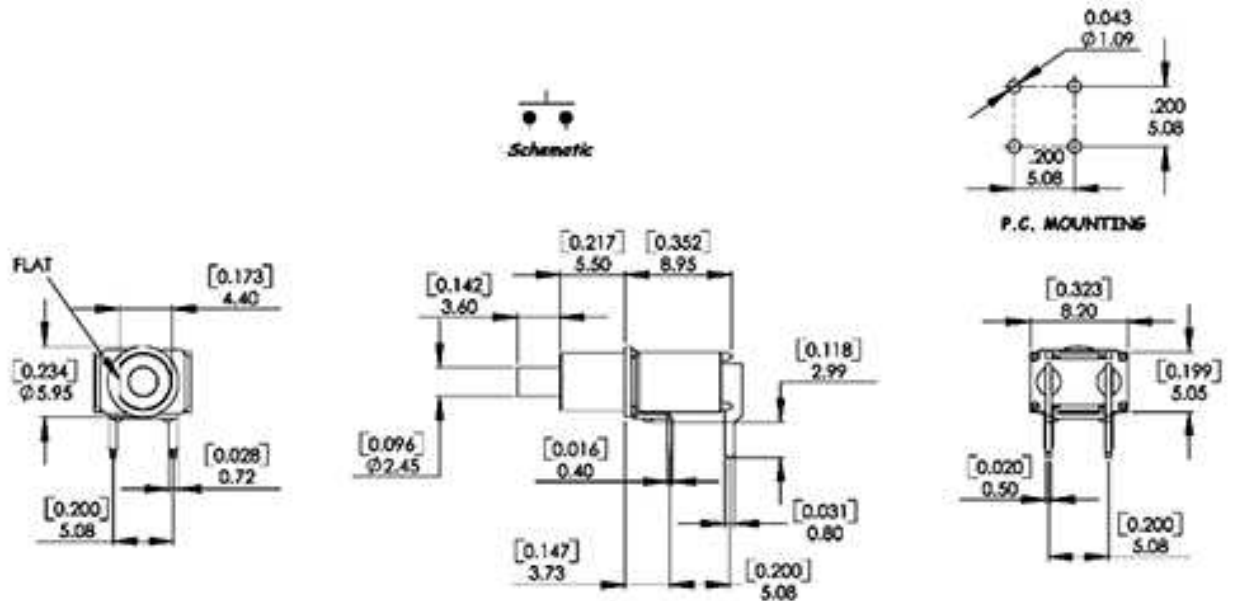
AS	01	—	B2	A4	Q	N
SERIES SYMBOL	FUNCTION		BUSHING	TERMINAL	CONTACT	EPOXY SEAL
AS SERIES	01 OFF-(ON) (2 PINS) 02 ON-(ON) (3 PINS)		B1 THREADED B2 NON-THREADED	A1 SOLDER TERMINALS  A2 PC THRO-HOLE  A3 RIGHT ANGLE (H)  A4 RIGHT ANGLE (V)  VS1 VERTICAL BRACKET 	Q SILVER PLATED G GOLD PLATED OVER NICKEL	N NONE E W/ EPOXY



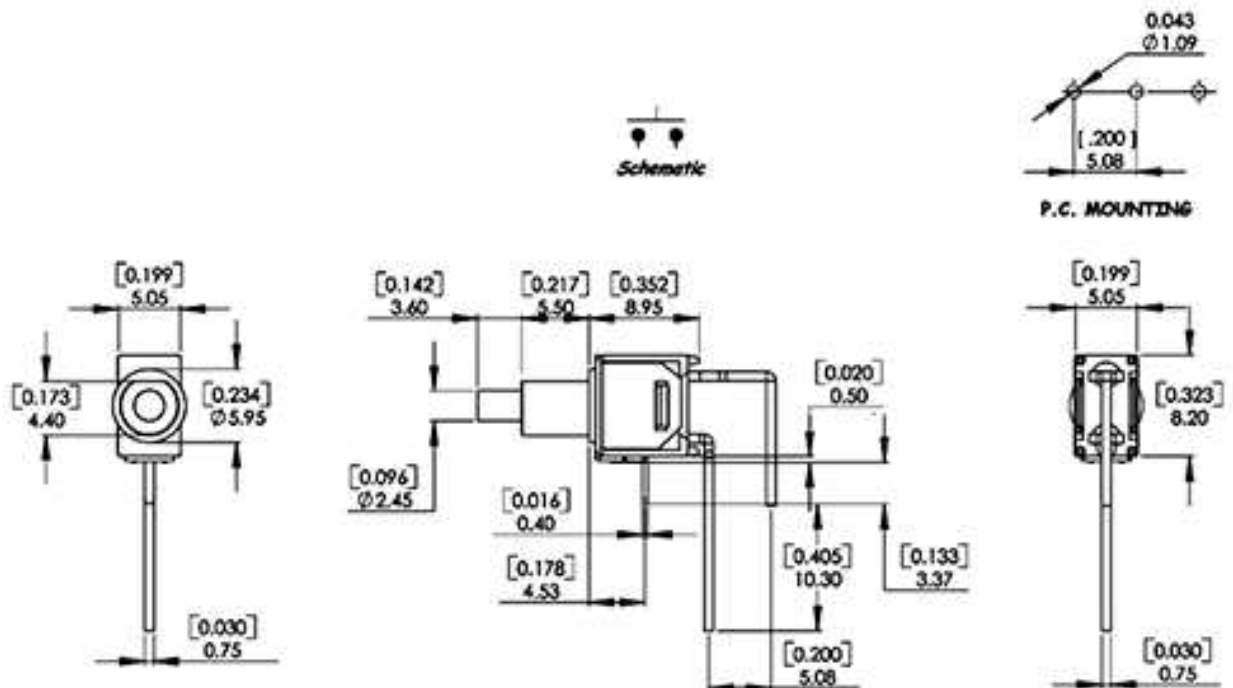
AS-01-B1A1QN



AS-01-B2A3QN

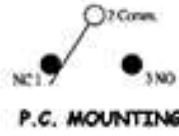
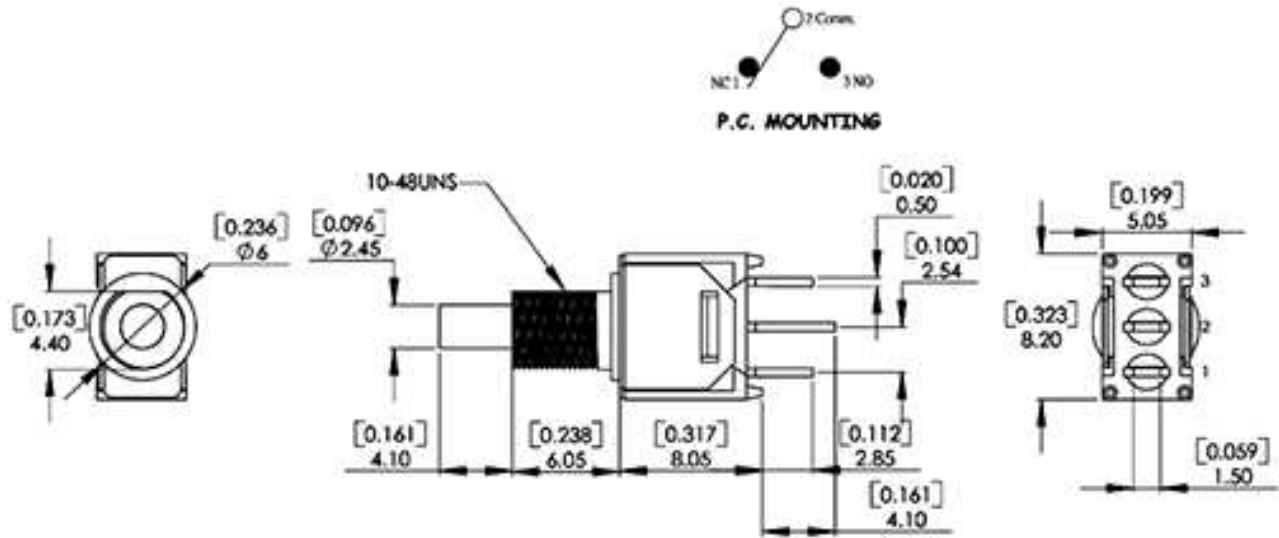


AS-01-B2A4-QN

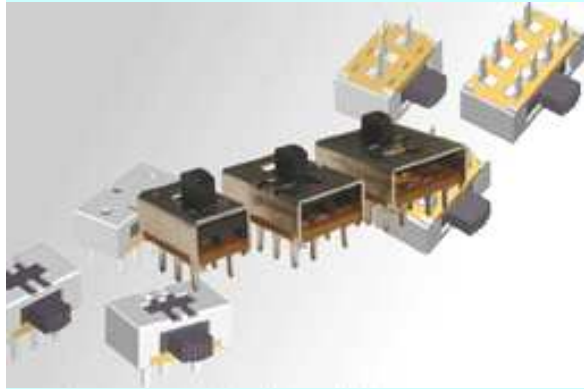




AS-02-B1A1QN



Knob optional in red or black



••

••••

••

SL13		PCB	•••••, •• 1A 125VDC
SL13A		PCB	•••••, ••3A 250VDC
SL13B		••••/PCB	••••, ••• PCB••
SL13C		PCB	••, ••• PCB••, •• 5A 125VDC
SL14		••••/PCB	12A ••••, DP1T, 2T, 3T ••, PCB••/••
SL15		••••/••••	••••••••, •• 9.0mm
SL16		PCB	••••••••••, ••••
SL17		••••	••DPST, ON-ON-OFF ••
SL19		••••/PCB	••••••••, DAP ••••
MSS		SMT	••••••, •• 25mA 24VDC
SS008		PCB	DC ••••, •• 0.3A 30VDC
TS40		PCB	•••••••• ••••, DAP••••

SL13 SERIES

SLIDE SWITCHES UP TO 1A 125VDC
2P2T, 2P35, Right Angled Mounting, PCB terminals



i@

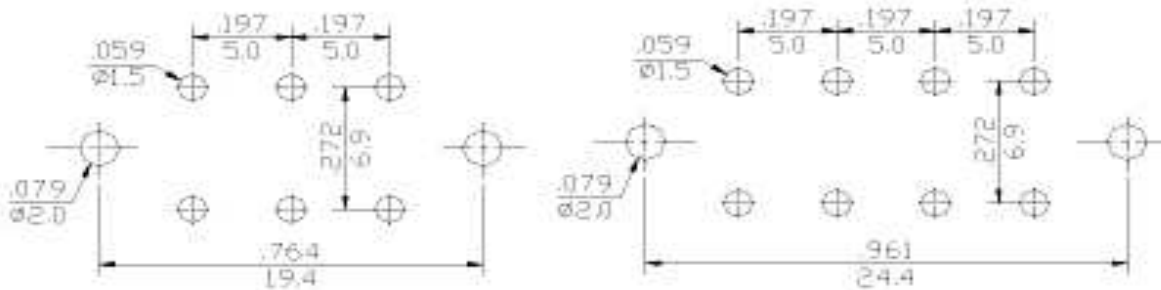
i@

- 1A 125VDC (UL)
- Contact resistance : 50m ohm max.
- Dielectric strength : 1,000 VAC for 1 minute.
- Life cycle : 10,000 cycles
- Operation force : 300;Ó200g.

- Frame : Nickel plated steel
- Actuator : PBT+15% G.F, UL rated 94V-2 min
- Base : Phenolic
- Movable contact: Silver plated copper
- Contact spring : Spring steel
- Terminals : Silver plated copper
- Spring : Piano wire
- Steel ball: Steel
- Frame : Nickel plated steel

i@

P.C. BOARD HOLE

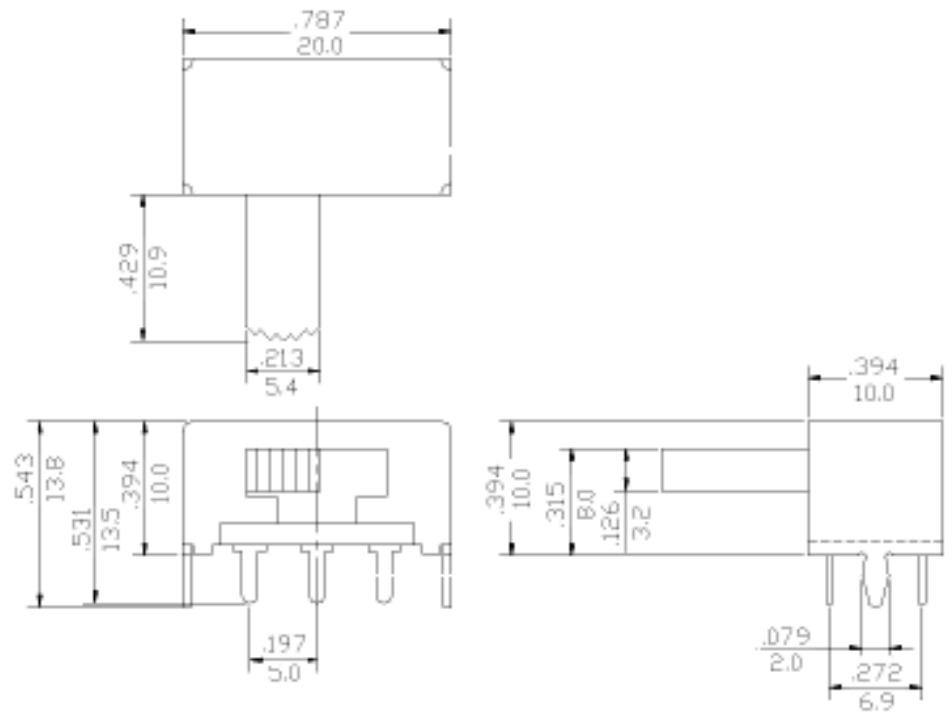


SL13-212C

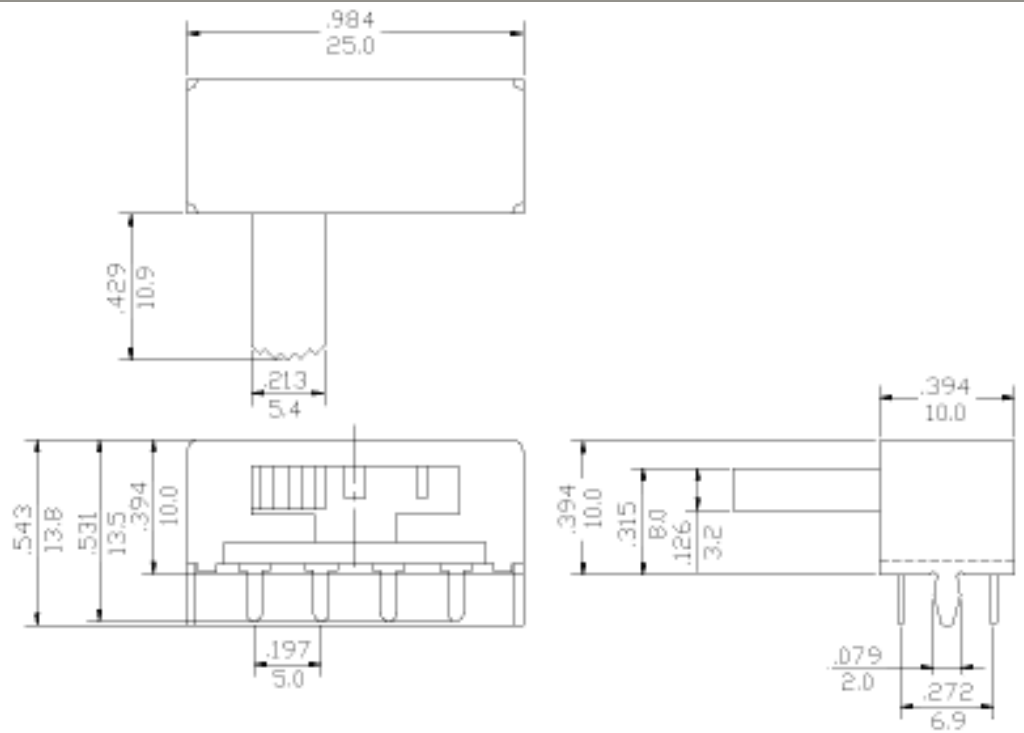
SL13-213C



SL13-212C

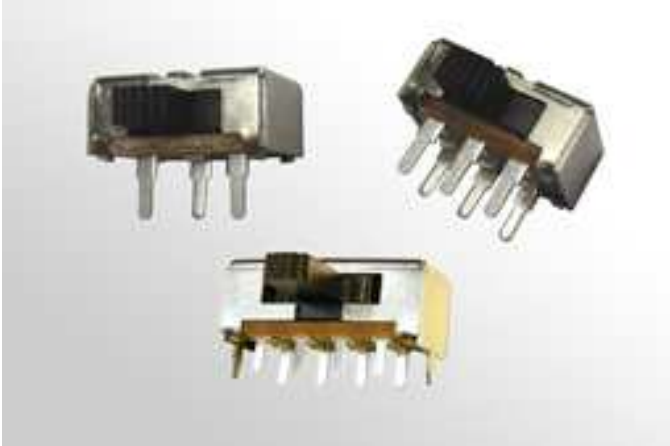


SL13-213C



SL13 SERIES

SLIDE SWITCHES UP TO 3A 250VAC
double poles, panel mounting, solder lug or PCB terminals



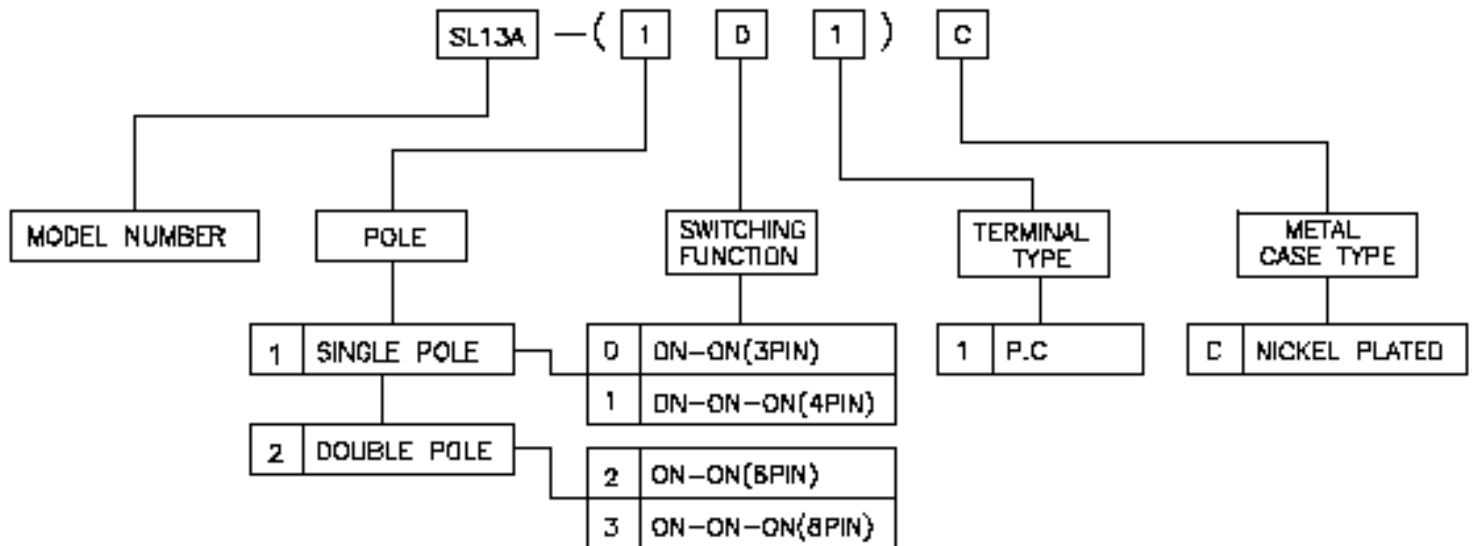
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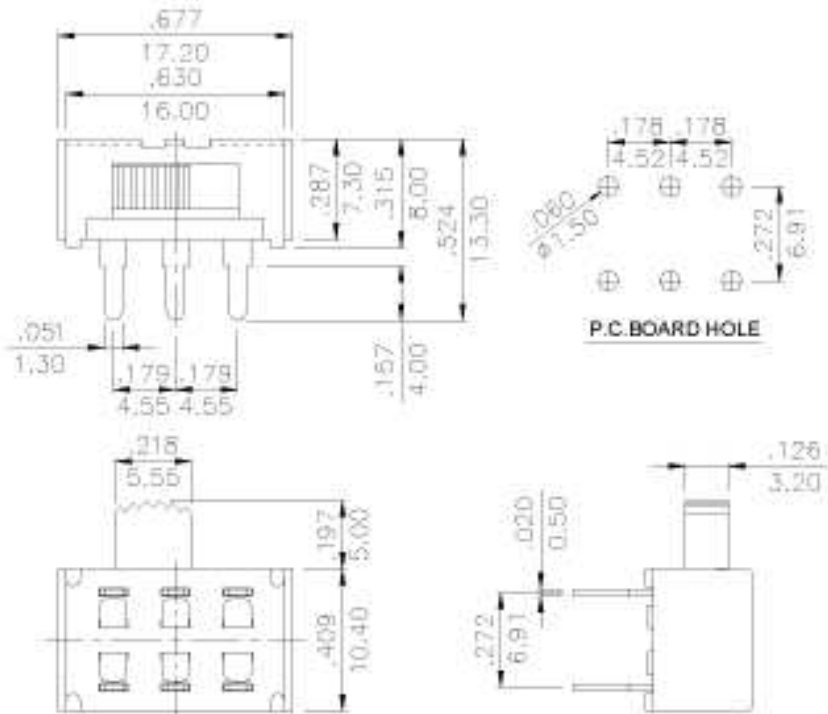
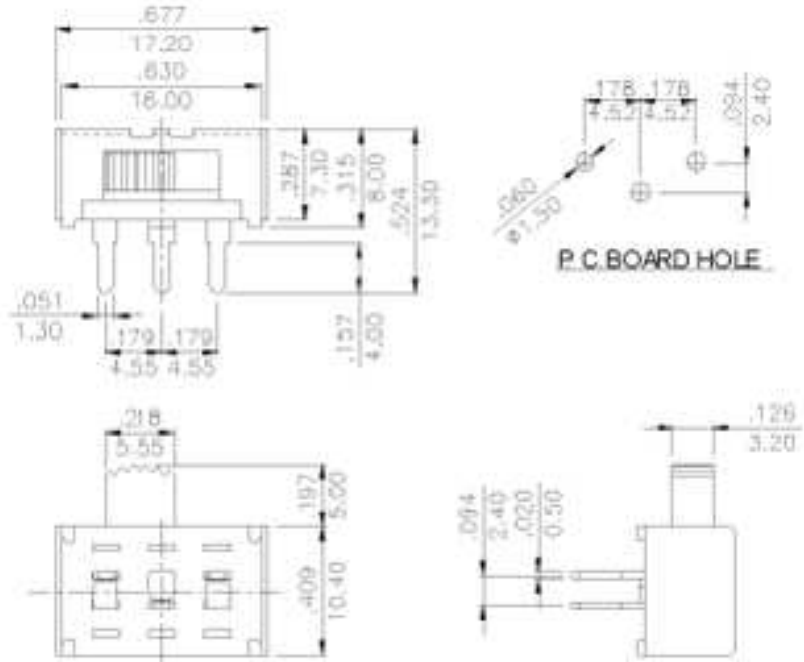
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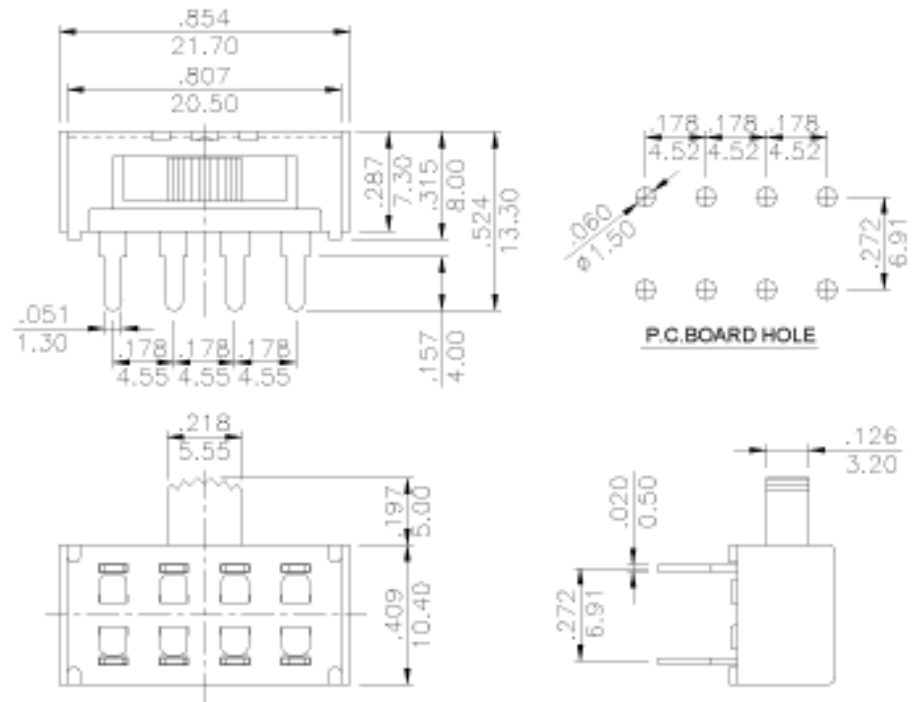
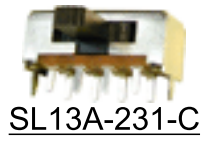
- 3A 125/250VAC
- Contact resistance : 20m ohm initial max.
- Withstand voltage : 1,000 VAC-1 minute.
- Life cycle : 100,000 AT 30VAC
- Operation : 200;Ó100 gram.

- Cover : Nickel plated steel
- Actuator : Nylon, UL rated 94V-2 min
- Base : Phenolic Laminate, UL rated 94V-2 min
- Contact : Silver Plated Copper alloy
- Terminal : Silver Plated Copper alloy
- Spring: Piano wire

How to Order





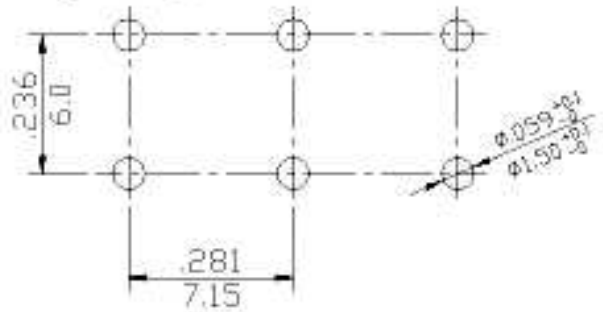


SL13 SERIES

SLIDE SWITCHES UP TO 6A 125VAC
double poles, panel mounting, solder lug or PCB terminals



Right Angled PCB Holes



- 6A 125VAC, 3A 250VAC (UL, CUL)
- 3A 250VAC (CQC)
- Contact resistance : 30m ohm initial max.
- Insulation resistance : 100M ohm min., 500VDC
- Withstand voltage : 1,000 VAC-1 minute.
- Life cycle : 6,000 cycles
- Operation : 700;Ó300 gram.

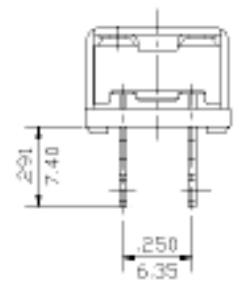
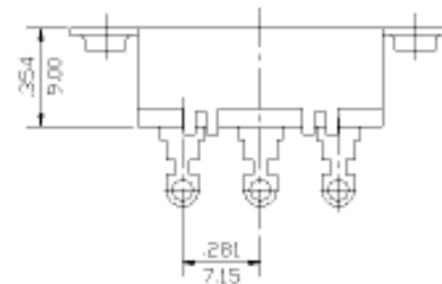
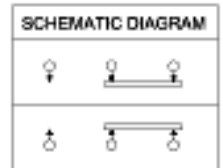
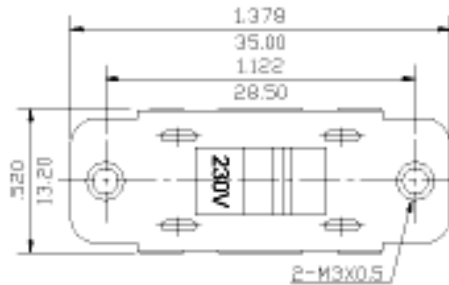
- Frame : Zinc rainbow plated steel
- Actuator : Nylon, UL rated 94V-2 min
- Base : Phenolic Laminate, UL rated 94V-2 min
- Contact : Silver Plated Phosphor bronze
- Terminal : Tin plated Brass

[How to Order](#)



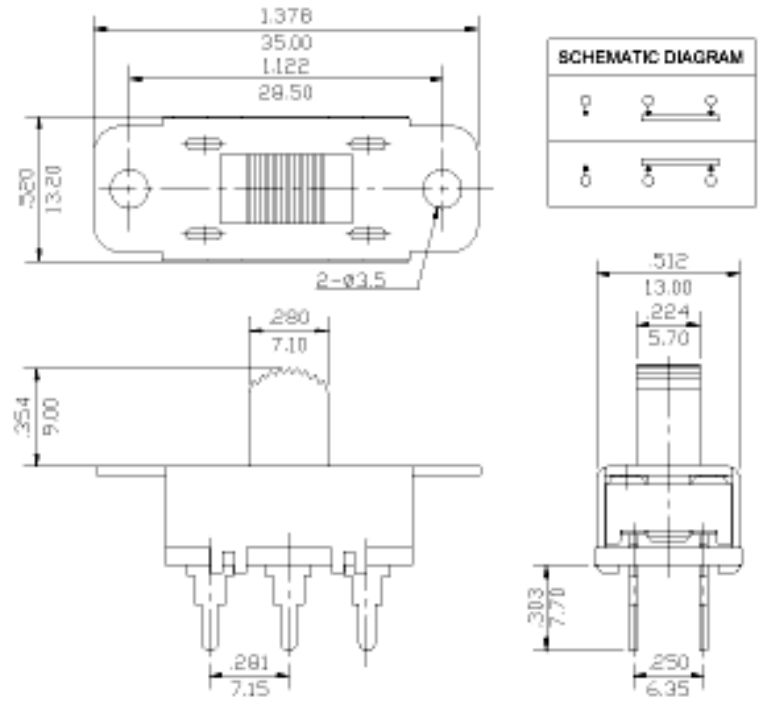
SL13B-022AMB0

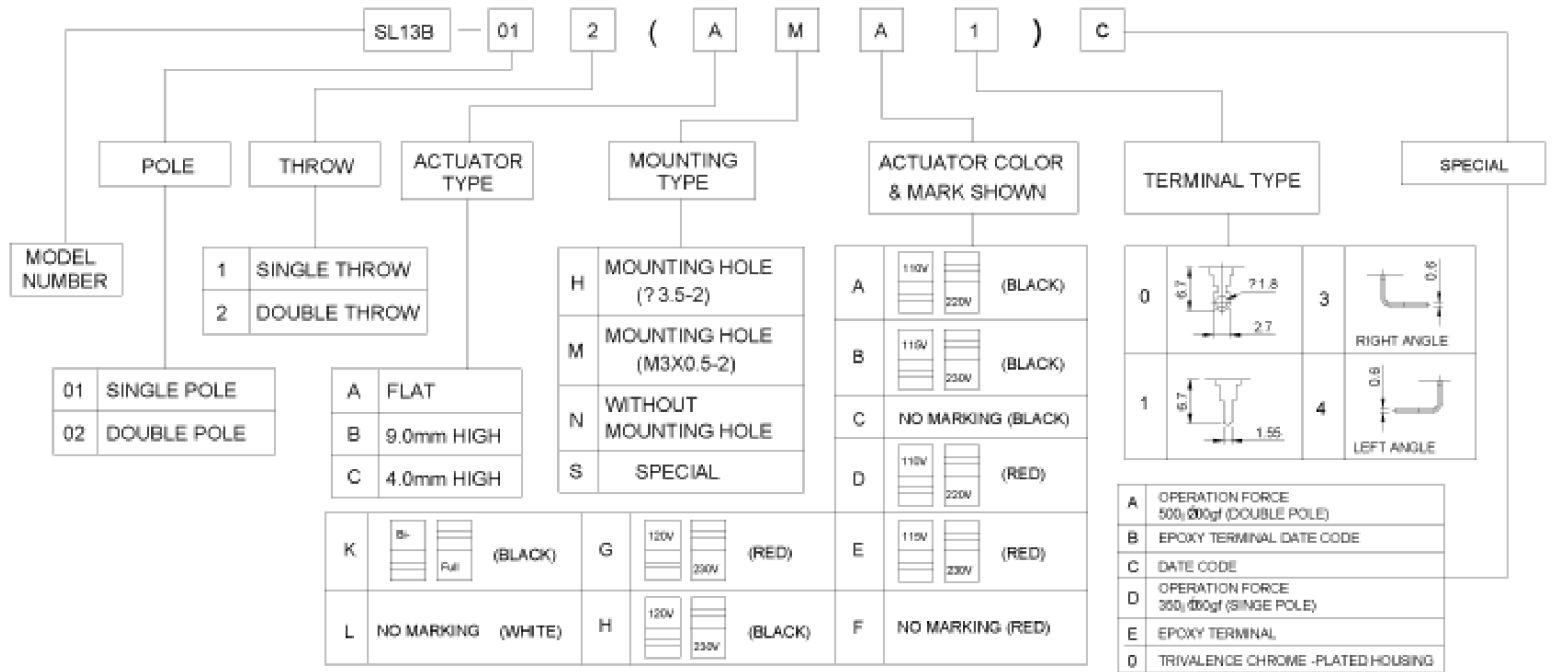
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SL13B-022BHC1

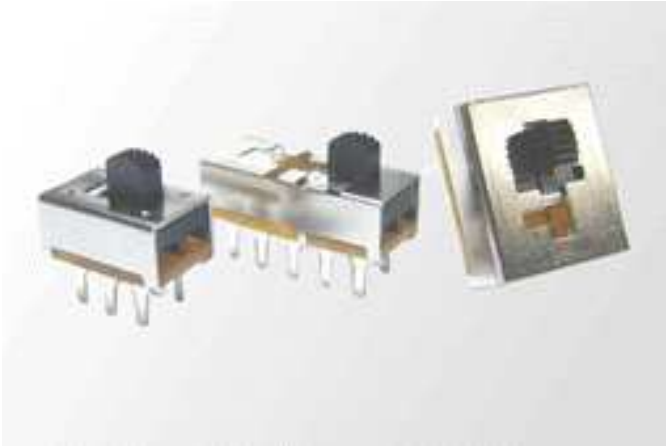




NOTE: The choosing of "0" of SPECIAL is complied to ROHS compliant

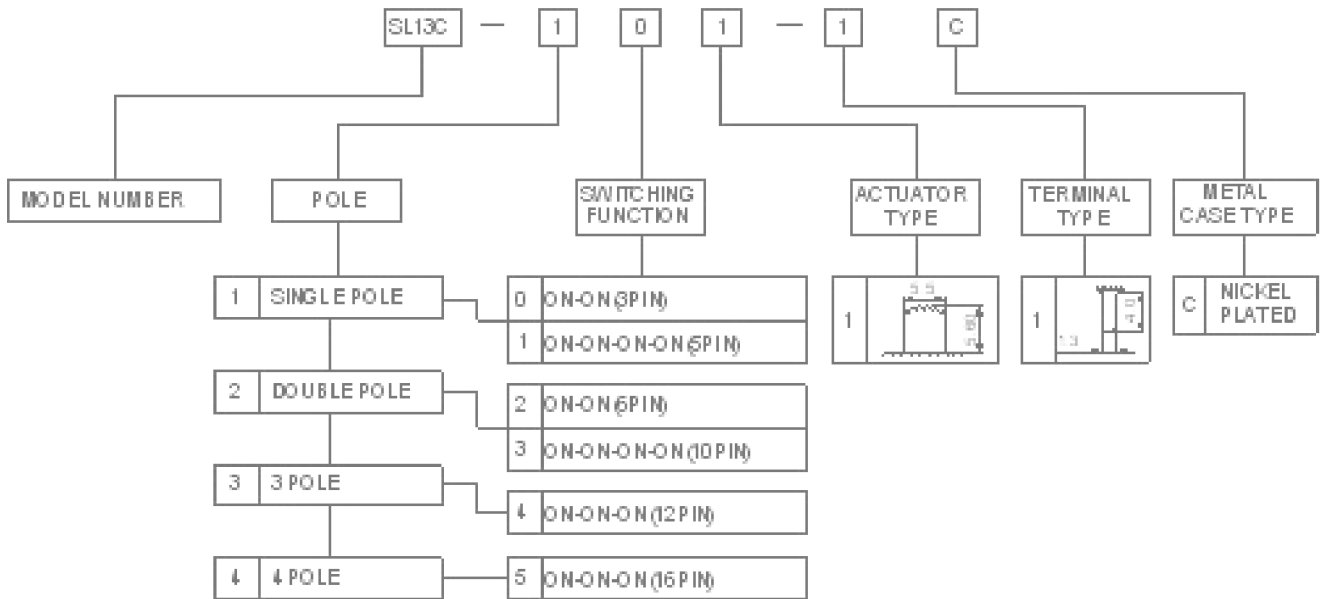
SL13C SERIES

SLIDE SWITCHES UP TO 5A 125VDC Double poles-panel mounting-solder lug or PCB terminals



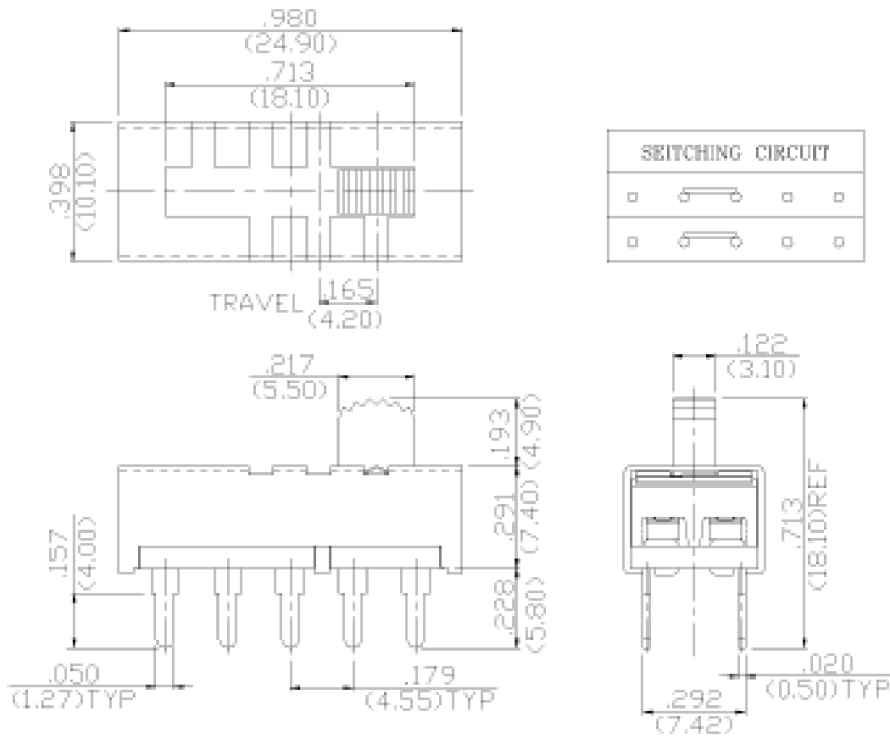
i@

- 3A 125VDC / 5A DC 125V
- Circuit: SP2T, SP4T, DP2T, DP4T, 3P3T, 4P3T
- Contact resistance : 20m ohm max.
- Dielectric strength : 1,000 VAC for 1 minute.
- Frame : Nickel plated steel
- Actuator : Nylon 66 , UL rated 94V-2 min
- Base : Phenolic
- Movable contact: Silver plated copper alloy
- Leaf spring : Copper alloy
- Terminals : Silver plated copper alloy

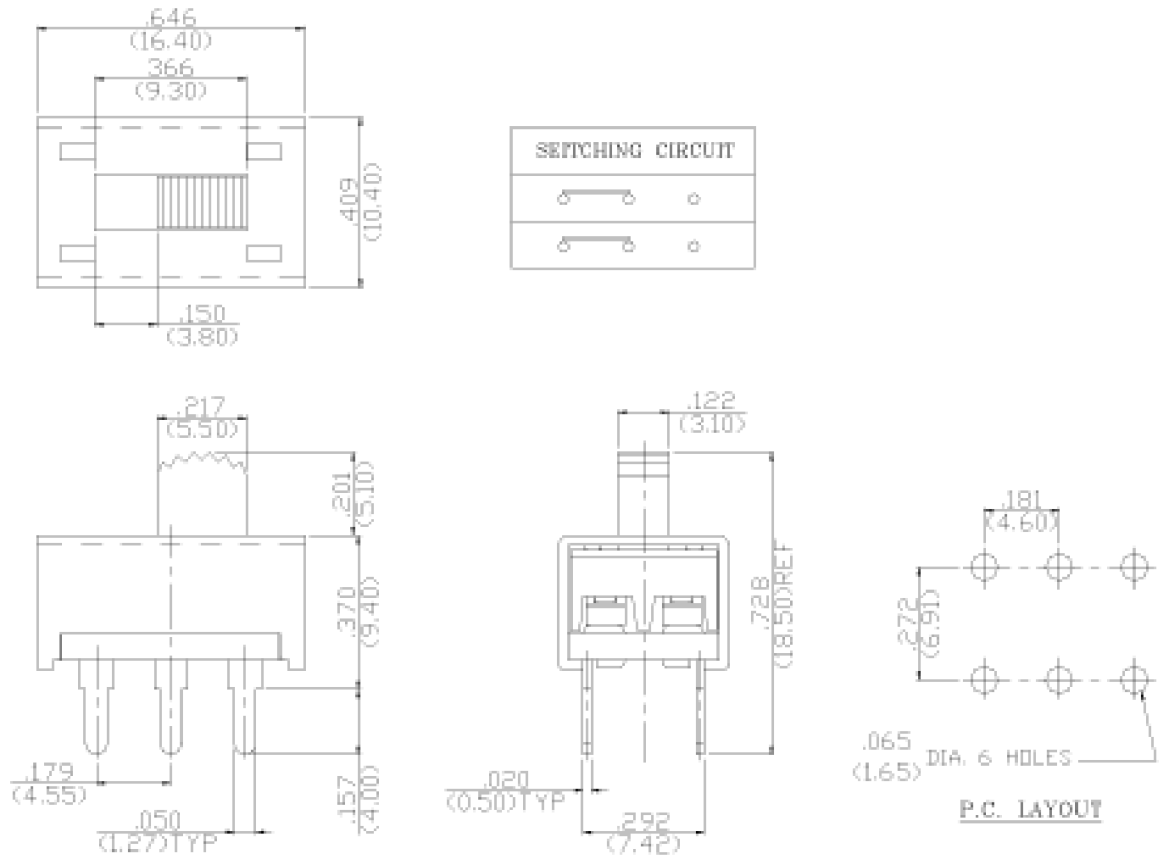




SL13C-231-1C



SL13C-221-1C



SL14 SERIES

SLIDE SWITCHES AND VOLTAGE SELECTOR UP TO 12A 250VAC
Double poles, panel or PCB mounting, solder lug, right angle terminals



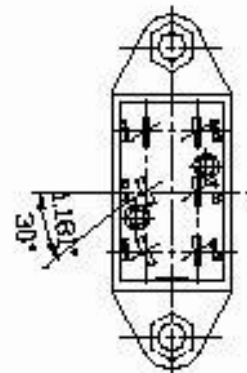
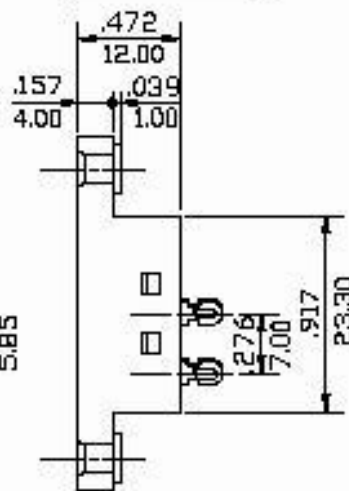
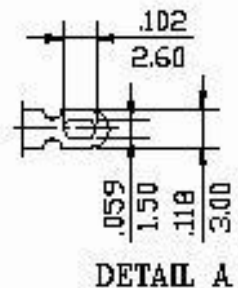
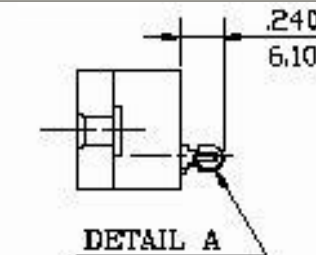
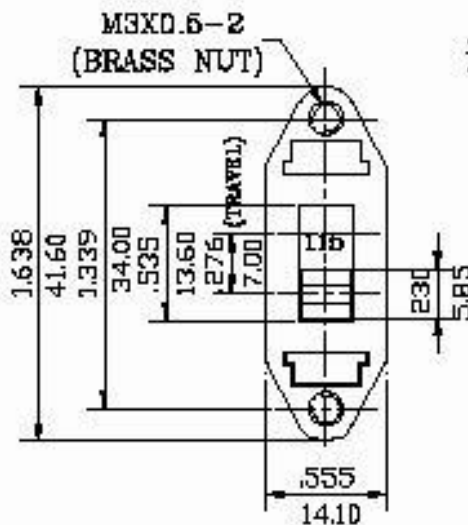
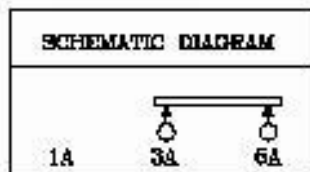
- 12A 125/250VAC , 4A 300VAC (UL, CUL)
- 10(1)A 250VAC (CQC)
- 10(1)A 250V~ $\text{\textcircled{E}}\text{gT85}$ (VDE, ENEC)
- 4(2)A 250V~ $\text{\textcircled{E}}\text{gT85}$ (VDE, ENEC)
- Contact resistance : 20m ohm (MAX).
- Insulation resistance : 100M ohm (MIN), DC 500V
- Dielectric strength : 1000VAC FOR 1 MINUTE
- Enclosure : PBT / Nylon, UL rated 94V-2 min
- Actuator : PBT, UL rated 94V-2 min
- Base : PBT / Phenolic, UL rated 94V-2 min
- Terminals : Silver plated Copper
- Contact : Silver plated copper
- Spring : Stainless wire

How to order



SL14-11AM1C

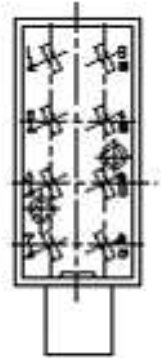
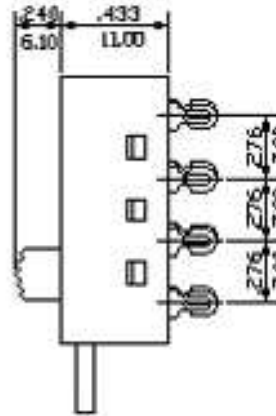
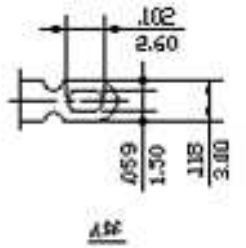
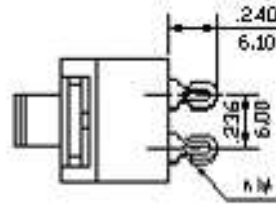
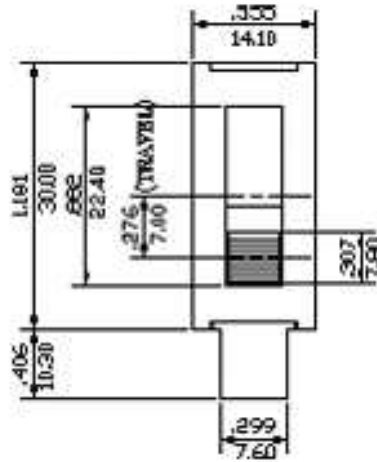
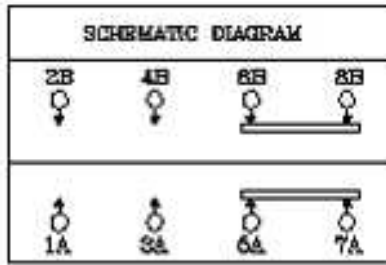
i@



i@



SL14-23CJ0H



SL14 - 1 1 A C - 1 E P

POLE

1	SINGLE POLE
2	DOUBLE POLES

THROW

1	SINGLE THROW
2	DOUBLE THROW
3	TRIPLE THROW

ACTUATOR TYPE

C	MOUNTING HOLE ($\phi_{13.1}$ - 2HOLES) $\phi_{3.4}$	L	WITHOUT HOLE AND NUT
H	MOUNTING HOLE ($\phi_{13.1}$ - 2HOLES) $\phi_{3.4}$	M	MOUNTING HOLE WITH SET NUT (M3X0.5-2)
J	WITHOUT HOLE AND NUT	N	WITHOUT HOLE AND NUT
K	WITHOUT HOLE AND NUT		

MOUNTING TYPE

WITHOUT HOLE AND NUT	
MOUNTING HOLE WITH SET NUT (M3X0.5-2)	
WITHOUT HOLE AND NUT	

ACTUATOR COLOR & MARKING

1 (RED)	2 (RED)	3 (BLACK)	4 (BLACK)	5 (RED)	6 (RED)	7 (RED)
115 116 118 119 120	110 111 112 113 114	115 116 118 119 120	110 111 112 113 114	NO MARKING	NO MARKING	NO MARKING
8 (BLACK)	9 (BLACK)	0 (GRAY)	A (RED)	B (BLACK)	C (RED)	D (RED)
230 231 232 233	220 221 222 223	230 231 232 233	20 21 22 23	NO MARKING	220 221 222 223	120 121 122 123
: SECRETIVE						

TERMINALS POSITION

H	I	J	K	L	N
A	B	C	D	E	F
G					

BASE MATERIAL

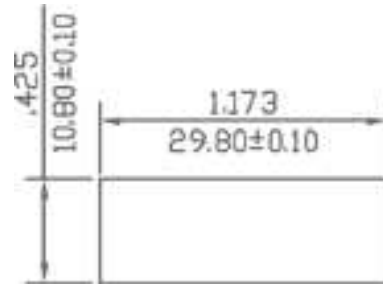
P	PHENOLIC
N	PBT

SERIES SYMBOL

A	FLAT
B	9.0mm HIGH
C	5.8mm HIGH
D	4.0mm HIGH

SL15 SERIES

Slim voltage selector up to 12A 250VAC
single pole, snap-in or panel mounting, solder lug terminals







Mounting Hole of Snap-in Type
i@





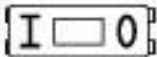


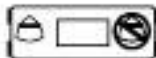

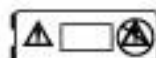
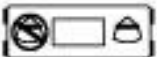
- 12(4)A 125/250V~ T55, T85, 6E3, 1E4(cURus UL61058-1, ENEC15)
- 12A 24VDC T55, T85, 6E3, 1E4(cURus UL61058-1, ENEC15)
- 10(1)A 250V~ EgT85/55 1E3 (CQC)
- Contact resistance : 20m ohm (MAX).
- Insulation resistance : 100M ohm (MIN), DC 500V
- Dielectric strength : 1000VAC for 1 minute
- Standard power switch for PC
- Safety approved internationally by cURus in North American, ENEC 15 in Europe, CQC in Asia.
- SPST, SPDT
- Screw or snap in mounting type
- Standard solder or bending terminal

How to Order

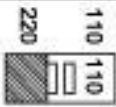
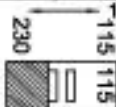
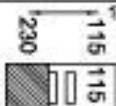
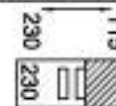









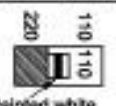
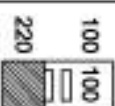
SL15	—	1	2	1	A	N	A
SERIES SYMBOL	POLE	FUNCTION	TERMINAL TYPE	ACTUATOR TYPE	CASE MARKING	ACTUATOR MARKING	
SL15 SERIES	1 SINGLE POLE	1 SINGLE THROW 2 DOUBLE THROW	1 SOLDER TERMINAL A BENDING TERMINAL	A FLAT	N NONE <i>* Other options for "J" base only ! See chart</i>	N NONE <i>* See chart</i>	
M	—	P	0	A	—	X	
MOUNTING		BASE	METAL CASE	RATING			

MOUNTING TYPE	BASE MATERIAL	METAL CASE PLATING	RATING TEMPERATURE	SUFFIXES
M SCREW MOUNTING  B SCREW MOUNTING  J SNAP IN  S SCREW MOUNTING SHORT BASE 	P PHENOLIC	0 ZINC BLUE-TRIVALENCE CHROME) 3 NO PLATING (ALL PLASTIC CASE) 4 WHITE ZINC 5 NICKEL PLATING B ZINC (BLACK TRIVALENCE CHROME)	A 12(4)A 125/250VAC T55 D 12A (6~24VDC) T55 1 12(4)A 125/250VAC T85 4 12A (6~24VDC) T85	BLANK OR LETTER/NUMBER

CASE MARKING (FOR BASE "J")

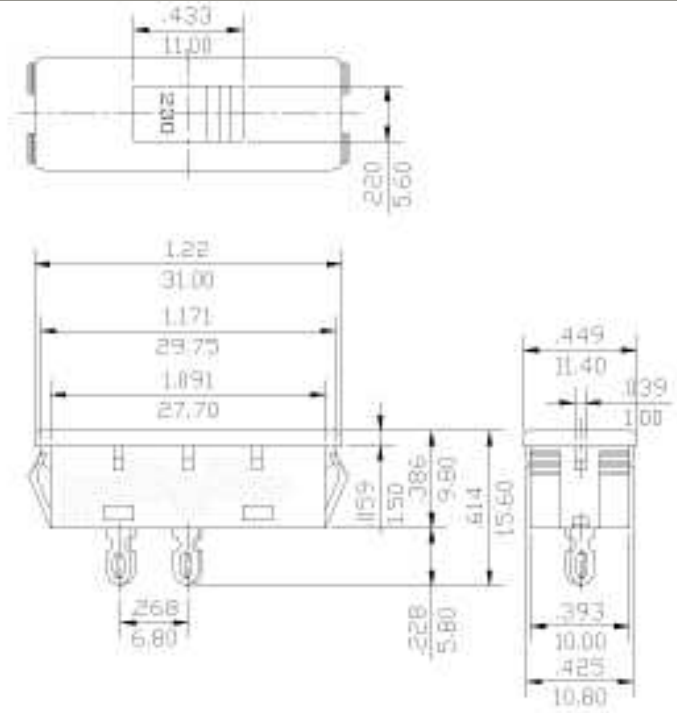
J	NO PRINTING 	U	
L		C	
R		T	
Q		X	
H			

ACTUATOR MARKING

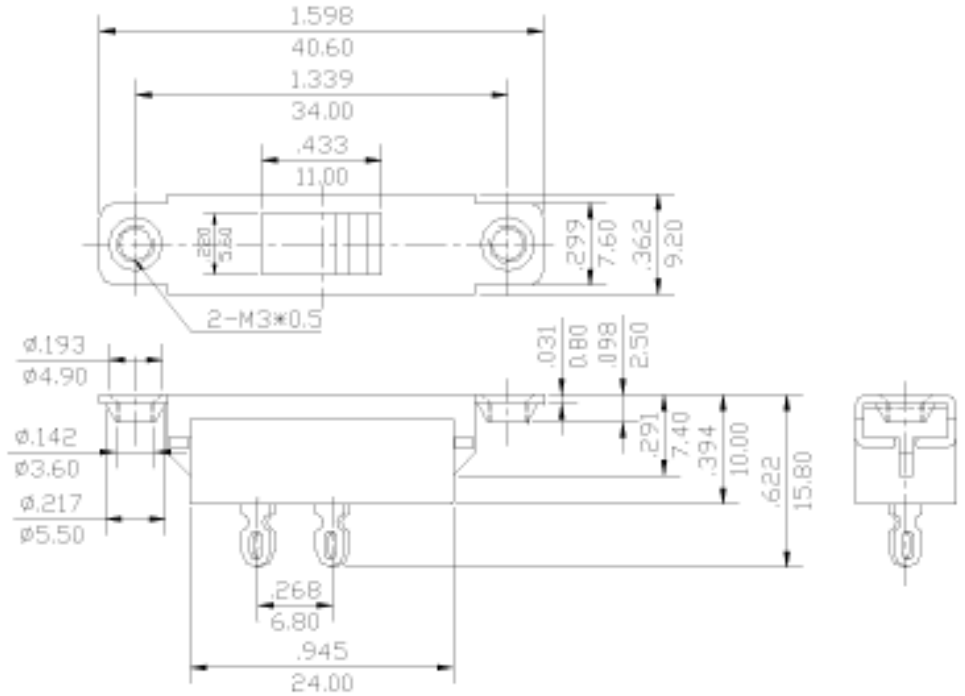
A		G		N	NO MARKING(B0)
B		H		P	
C	NO MARKING	J		Q	
D		K		S	
E		L		5	
F	 Painted white	M			



SL15-11A1BJ-P3A-1JNN

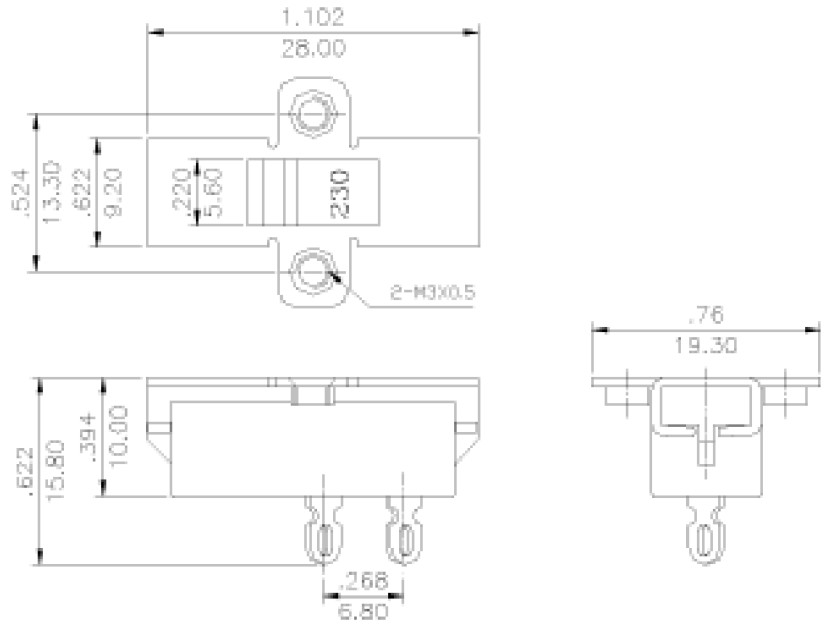


SL15-111ANBM-P5A-1MNN

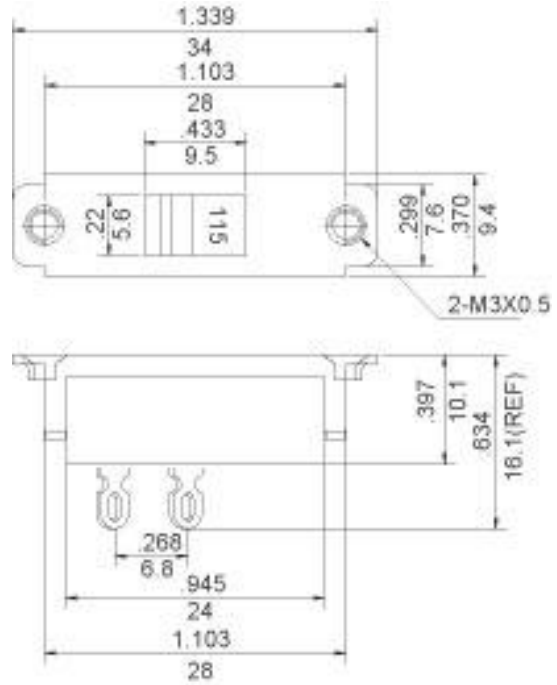




SL15-111 ANBE-POA-1BNN



SL15-111ANBS-POA-1SNN



i@

SL16 SERIES

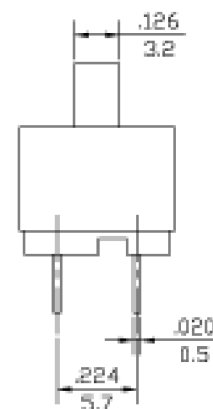
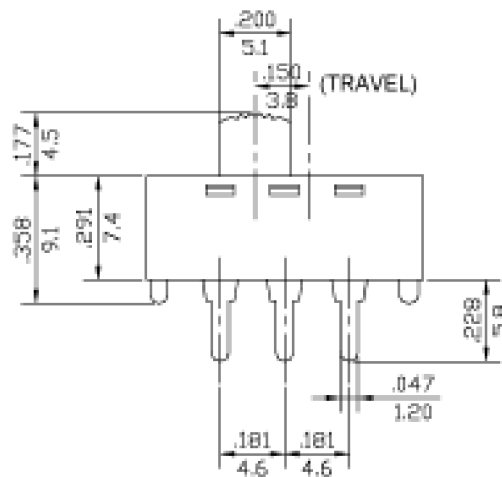
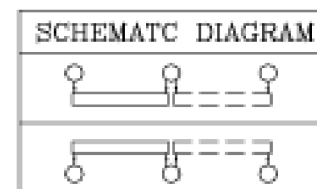
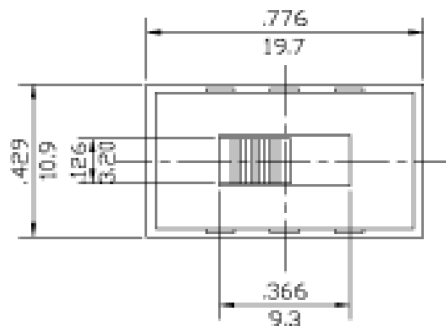
SLIDE SWITCHES UP TO 4A 125VAC
slim slide switch for instrumental usage, all plastic housing



- SP3T, DP3T, PCB mounting
- 4A 125VAC, 2A 250VAC (UL)
- Contact resistance : 50m ohm (MAX).
- Insulation resistance : 100M ohm (MIN), DC 500V
- Dielectric strength : 1000VAC FOR 1 MINUTE
- Enclosure : PBT / Nylon, UL rated 94V-2 min
- Base : PBT / Nylon, UL rated 94V-2 min
- Actuator : PBT/Nylon, UL rated 94V-2 min
- Contact arm : Copper
- String: Steel wire
- Terminals : Copper alloy



SL16-(24AN)C



i@

SL17

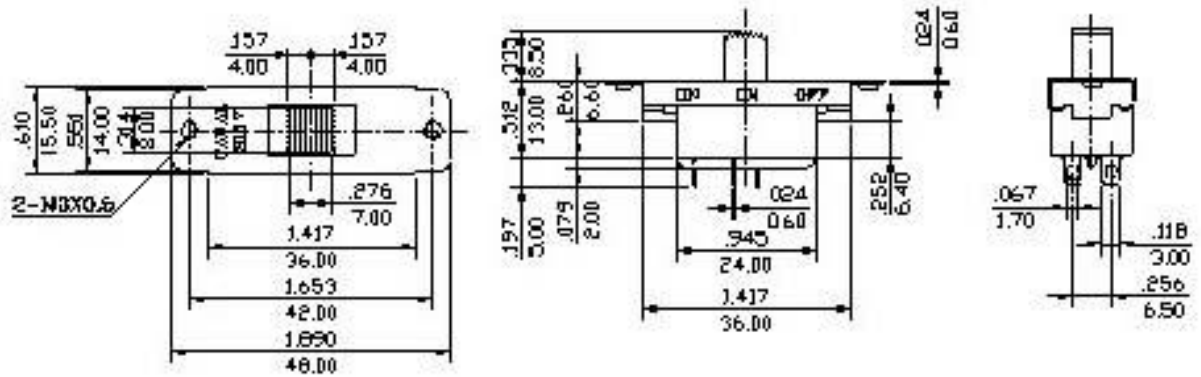
SLIDE SWITCHES UP TO 3A 125VAC
 DPST, panel mounting, solder lug, ON-ON-OFF or ON-OFF



i@

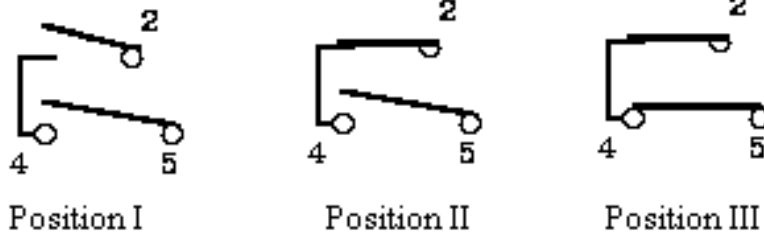
- 3A 125.
- 1A, 250VAC (CQC)
- Contact resistance : 50mΩ (MAX).
- Insulation resistance : 100M ohm (MIN), DC 500V
- Dielectric strength : 2000VAC FOR 1 MINUTE
- Base : Phenolic, UL rated 94V-0

- Frame : Steel
- Actuator : ABS
- Movable Contact : Silver plated brass
- Terminals : Tin plated brass
- Spring : Piano wire



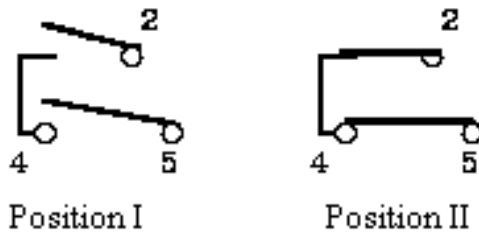
Terminal 4 is the side terminal

i@
 SL17-22A
 OFF-ON-ON



i@

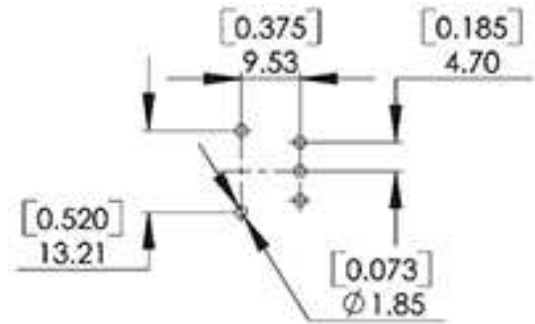
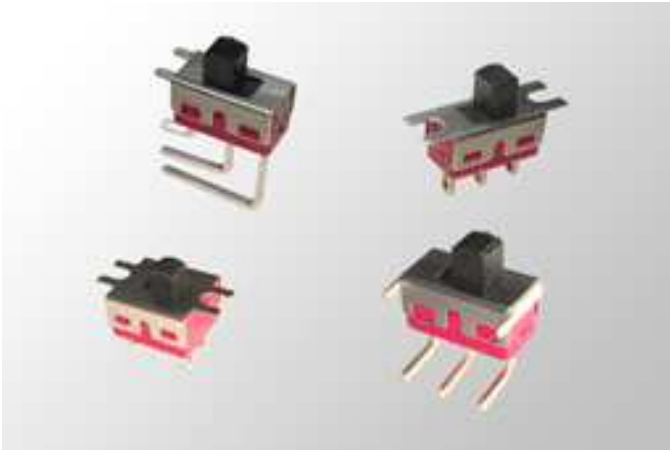
SL17A-21A
 OFF-ON



i@

SL19

MINI SLIDE SWITCHES UP TO 6A 120VAC
instrumental usages, panel mounting, PCB, solder lug

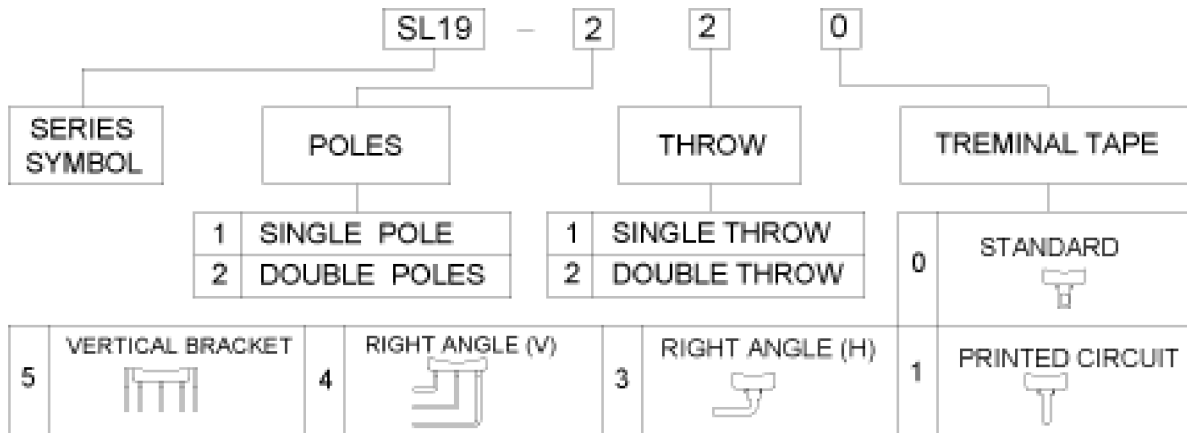


P. C MOUNTING



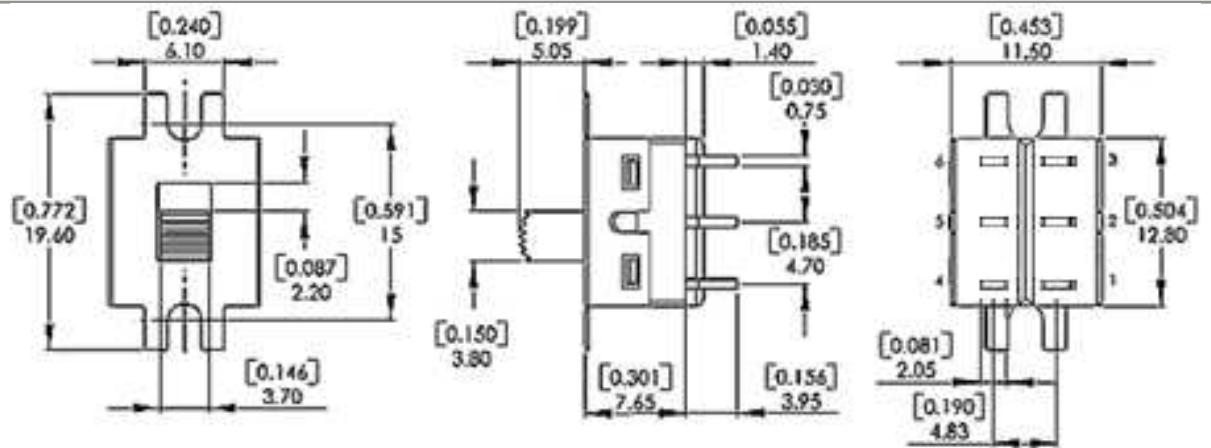
- 6A 120VAC, 3A 250VAC (UL)
- 6A 28VDC (UL)
- Initial contact resistance : 10m ohm (max.)
- Insulation resistance : 500VDC 100M ohm (min)
- Dielectric strength : 1,000VAC for 1 minute
- Life cycle : 30,000 cycles
- Temperature range : -20 to + 85 degrees in Celsius
- Case : Diallyl phthalate (DAP).
- Housing : Stainless steel.
- Slide handle : Nylon66
- Contact : Silver plated copper
- gold plated optional
- Terminals : Silver plated copper or brass
- gold plated optional

[How to order](#)

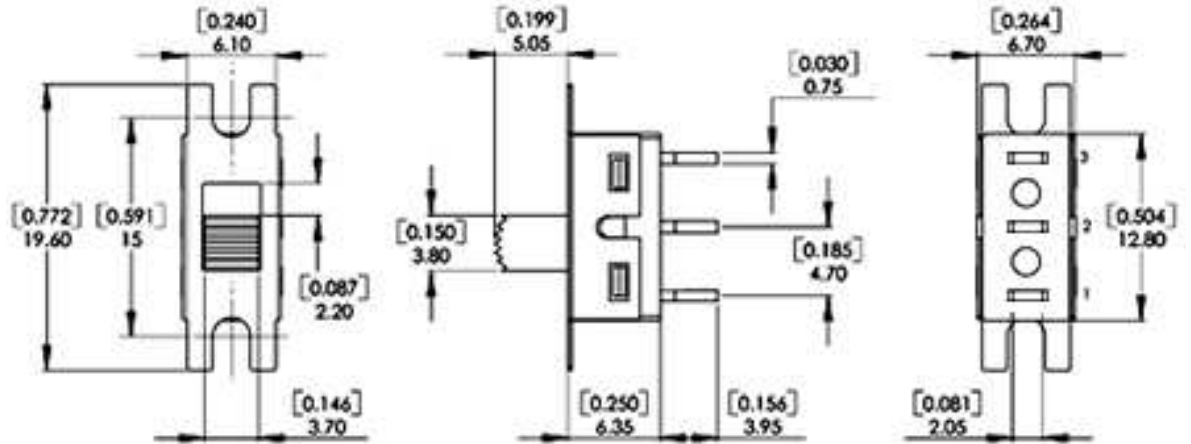




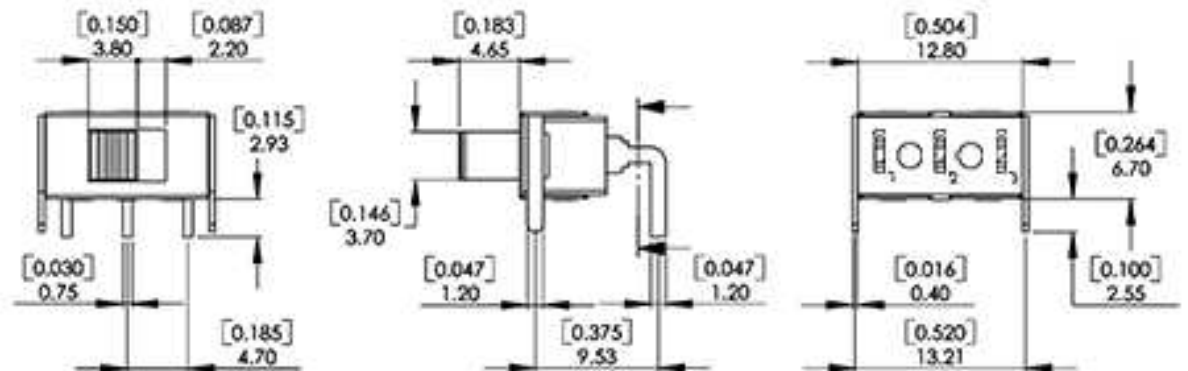
SL19-220



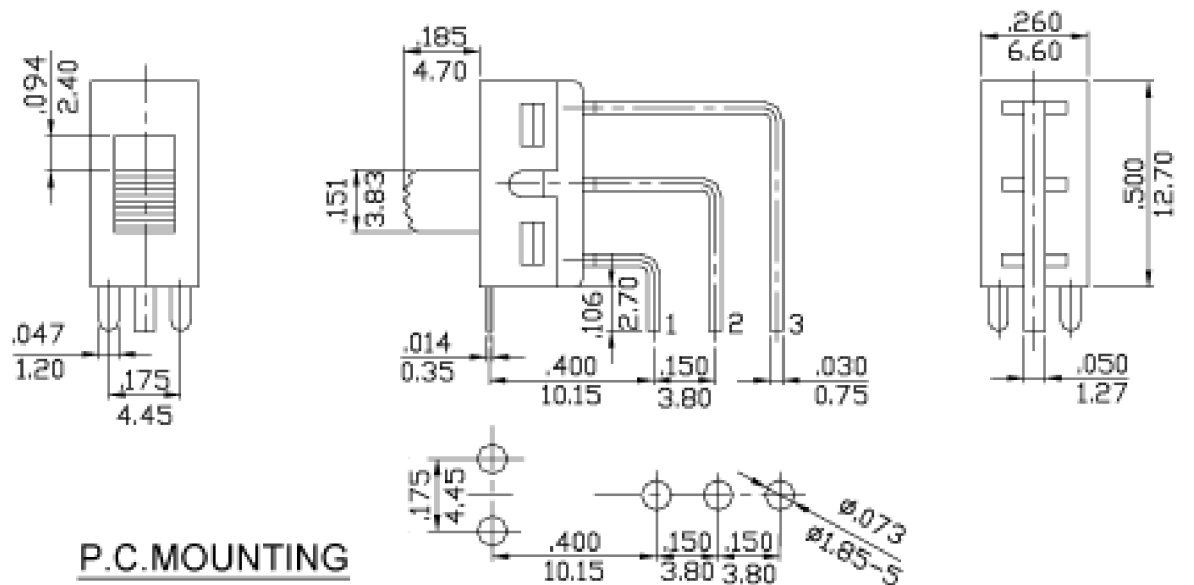
SL19-120



SL19-123

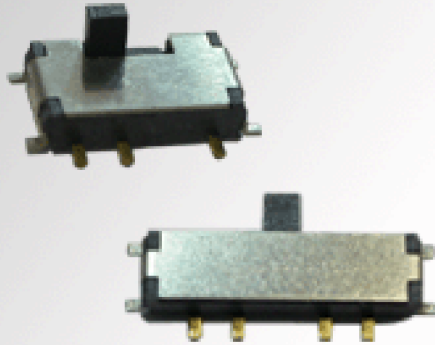


SL19-124



MSS SERIES

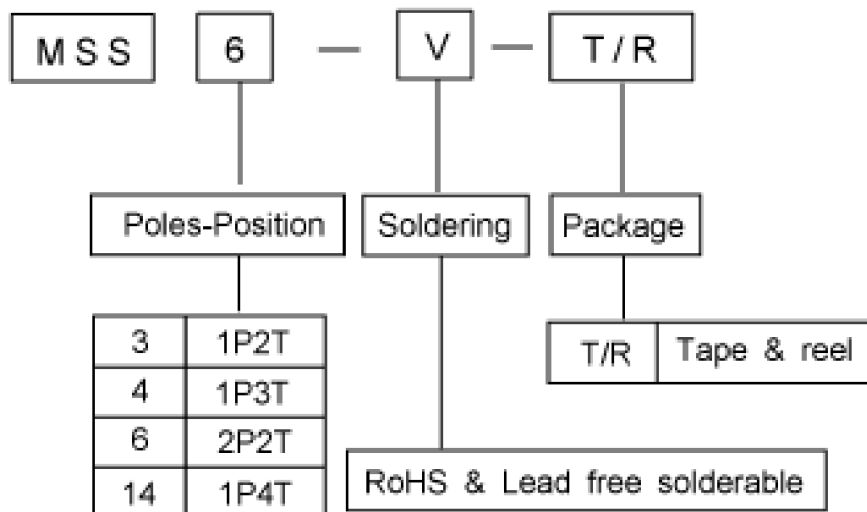
Miniature Type Slide switch, up to 25mA 24VDC
Circuit: SP2T, SP3T, DPDT, SP4T

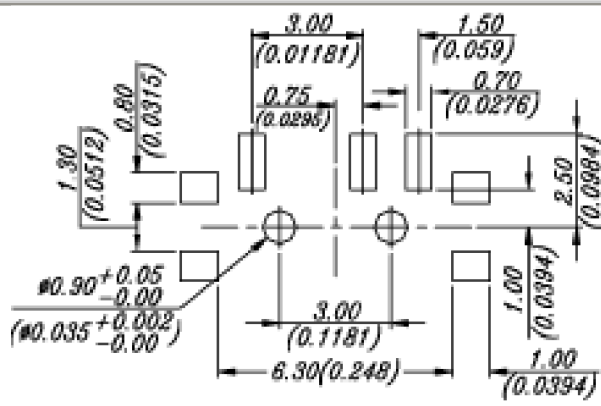


i@

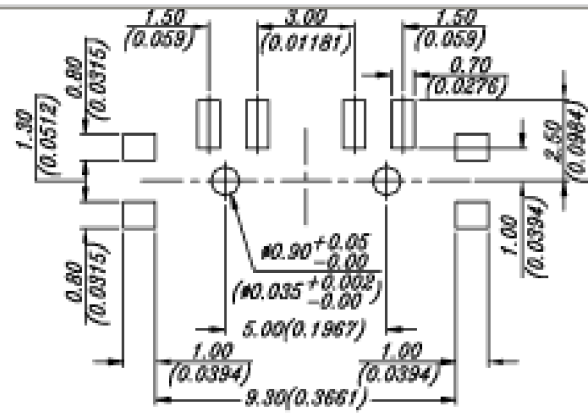
#1.5MM TRAVEL & SMT TYPE

- Electrical Life: 10,000 cycles
- Non-switching rating: 300mA, 4VDC
- Switching Rating: 25mA, 24VDC
- Contact Resistance: 100m max.
- Insulation Resistance: 100M min. (500VDC)
- Dielectric Strength: 500VAC/ 1minute
- Circuit: SP2T, SP3T, DPDT, SP4T
- Mechanical Life: 10,000 operations cycles
- Travel: 1.5mm
- Operation Temperature: -20 °C to +70 °C
- Storage Temperature: -40 °C to +85 °C
- Hand Soldering: Use a soldering iron of 30 watts, controlled at 350°C approximately 5 seconds.
- Reflow soldering: When applying reflow soldering, the peak temperature or the reflow oven should be set at 255°C
- RoHS: compliant
- T/R Packaging:
MSS3/MSS4/MSS14: 2500/reel
MSS6: 1400/reel

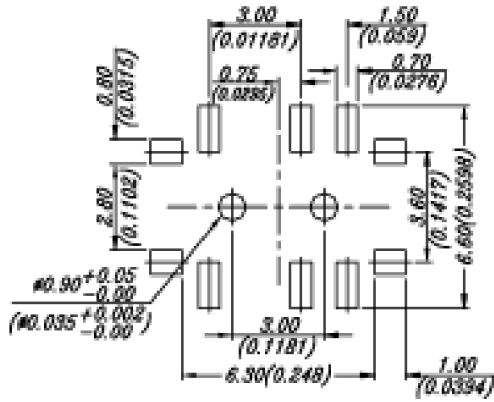
How to Order:



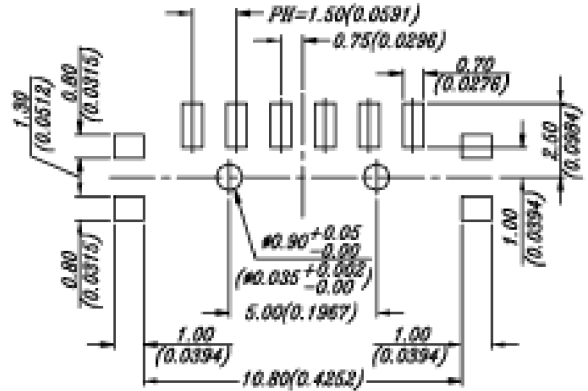
MSS3



MSS4

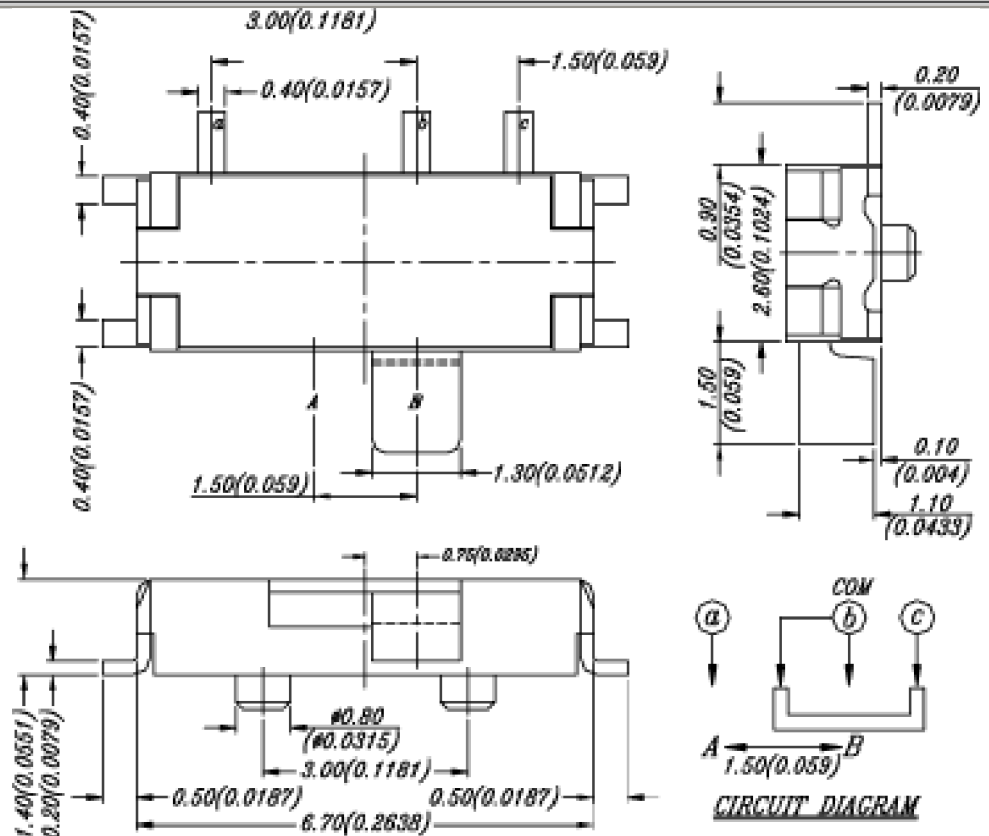


MSS6

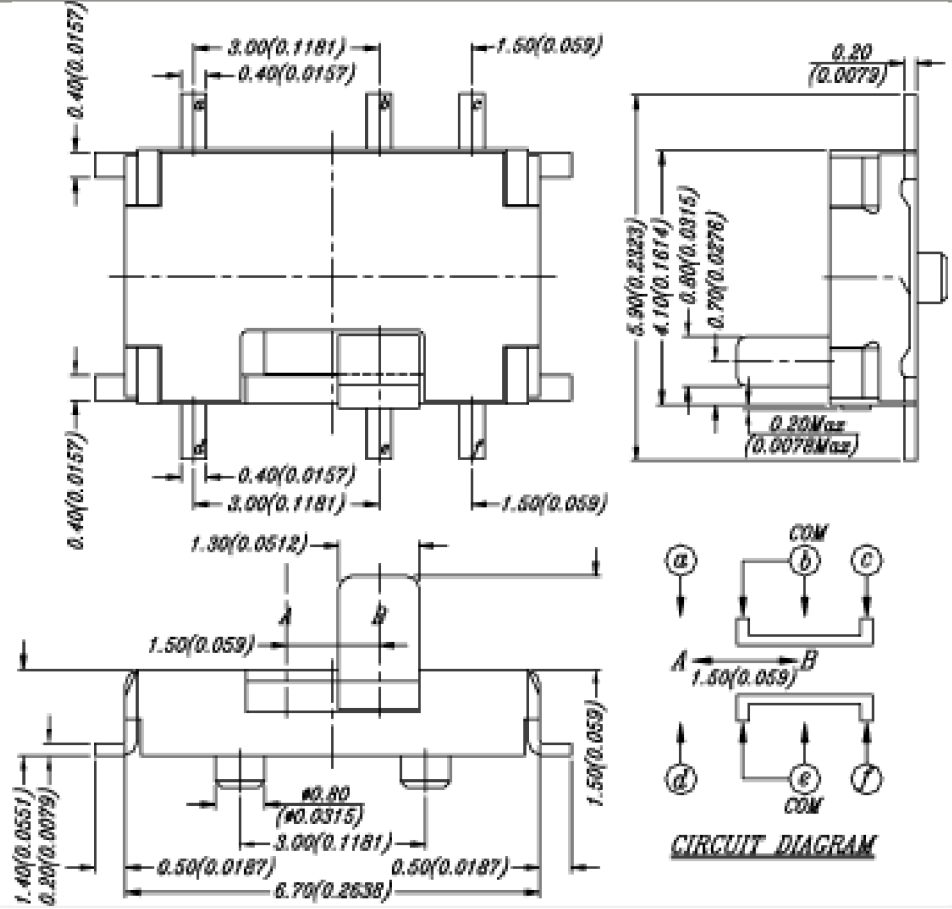
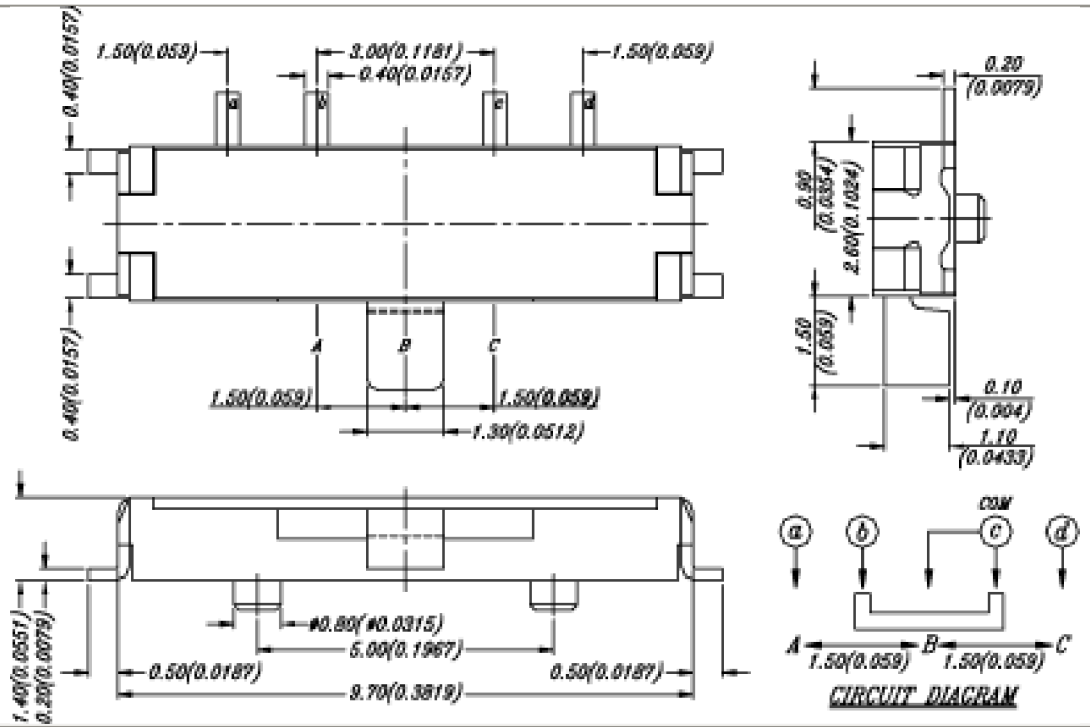


MSS14

PCB LAYOUT

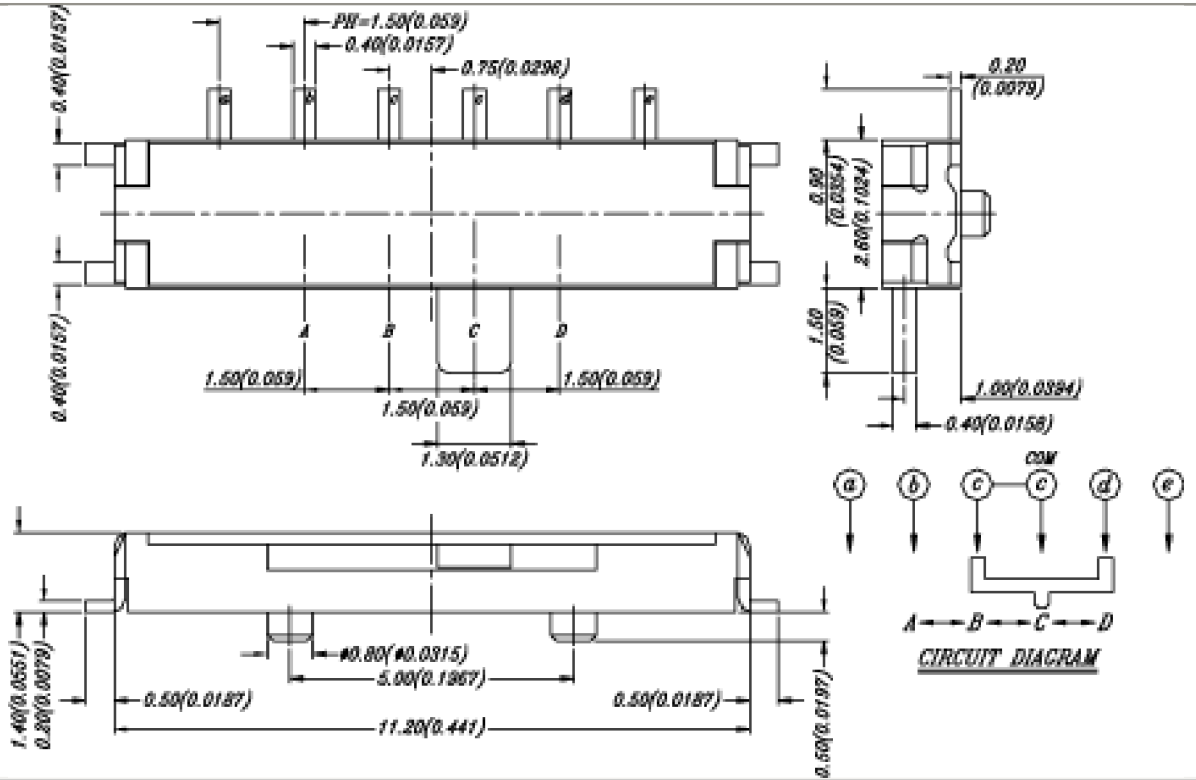


CIRCUIT DIAGRAM





MSS14



SS008- SERIES

DC SLIDE SWITCHES UP TO 0.3A 30VDC
 1P2T, 2P2T, PCB Mounting; Vertical and Horizontal type



i@

- 0.3A 30VDC
- Contact resistance : 50m ohm initial max.
- Insulation resistance : 100M ohm min., 250VDC
- Withstand voltage : 2,50 VAC-1 minute.
- Life cycle : 10,000 cycles
- Operation : 200;Ó150 gram.
- Frame : Nickel plated steel
- Actuator : Thermoplastic
- Base : Phenolic Laminate
- Contact : Copper alloy
- Terminal : Copper alloy

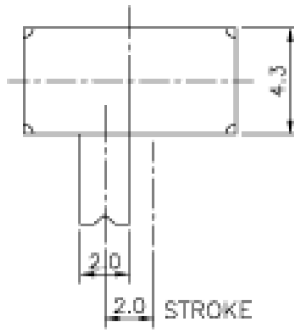
i@

i@

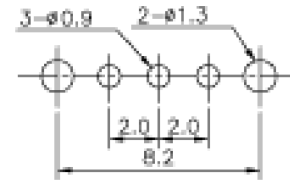
How to order:

SS008		B	-	01P		-	22	
Actuator type			Actuator Height			Throw		
	Horizontal type		01P	2.0mm		12	SPDT	
B	Vertical type		02P	4.0mm		22	DPDT	
			03P	6.0mm				

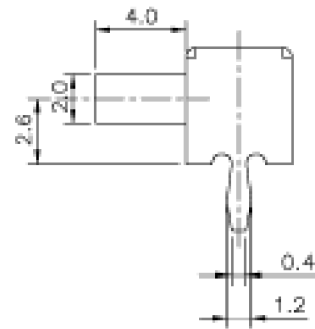
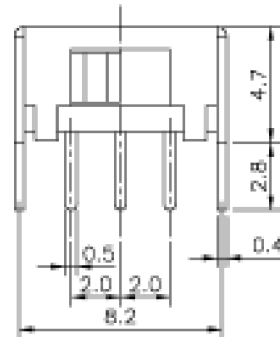
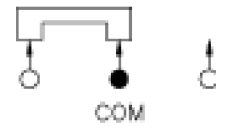
SS008-02P-12



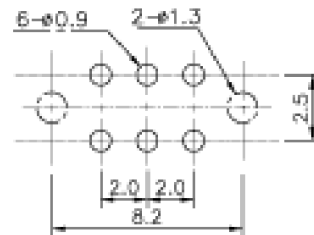
P.C.B HOLE DETAIL



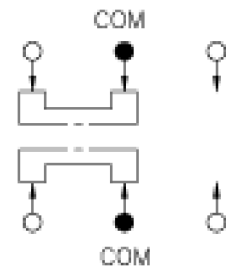
SCHEMATIC



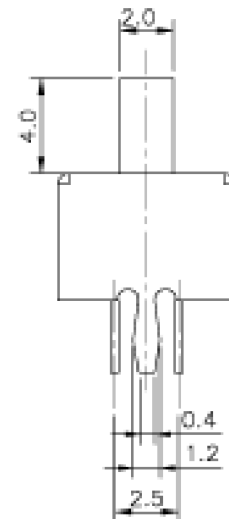
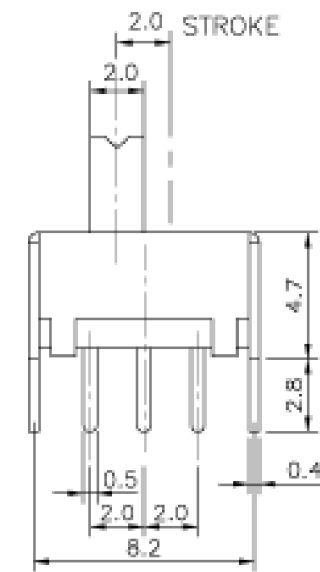
P.C.B HOLE DETAIL



SCHEMATIC

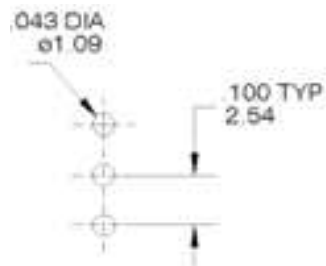


i@
SS008B-02P-22
i@

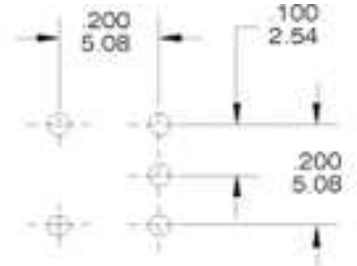


TS40-SERIES

Subminiature Slide Switches Up To 1.5A 250VAC, PCB Terminals, On-On, On-Off-On



Vertical PCB Holes & Right-Angled PCB Holes

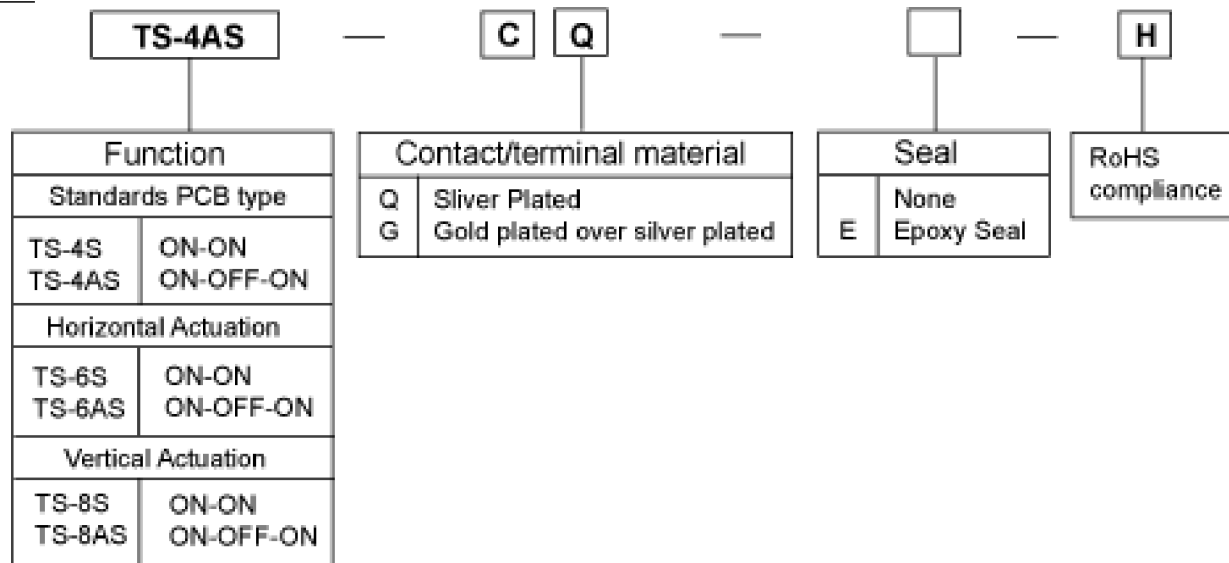


Right-Angled PCB Holes (Horizontal)

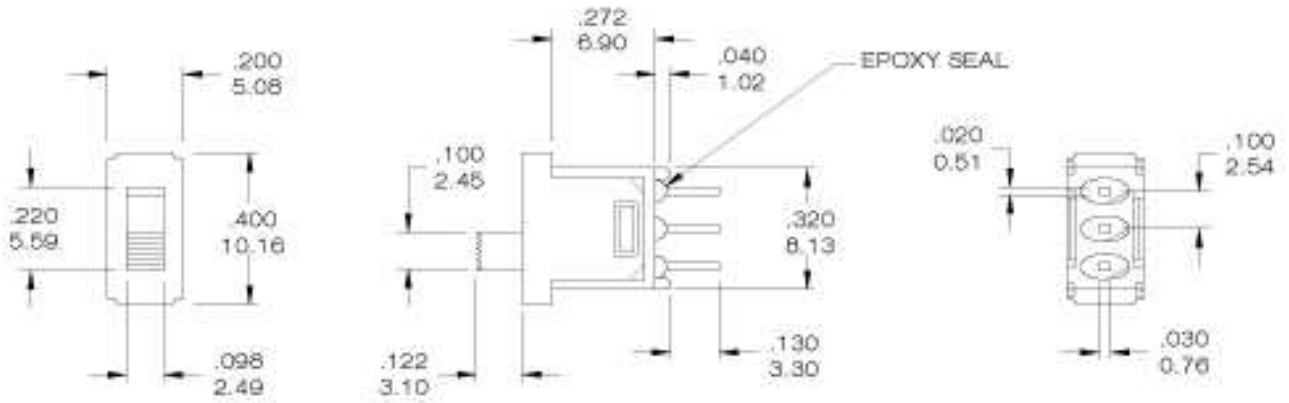


- 1.5A 250VAC (CUL)
- Gold-plated contact available for low current DC application
- Initial contact resistance : 50m ohm max.
- Insulation resistance : 100M ohm min, at 500VDC
- Dielectric strength : 1,000 VAC for 1 minute
- Temperature range : -20 to + 85 degrees in Celsius
- Electrical Life: 6,000 cycles
- Base: Diallyl Phthalate (DAP), UL94-V2 min.
- Actuator: Nylon, UL94-V2 min.
- Case: Stainless Steel
- Contact and terminals: Silver plated copper alloy. Gold-plating available
- Terminal Seal: Epoxy

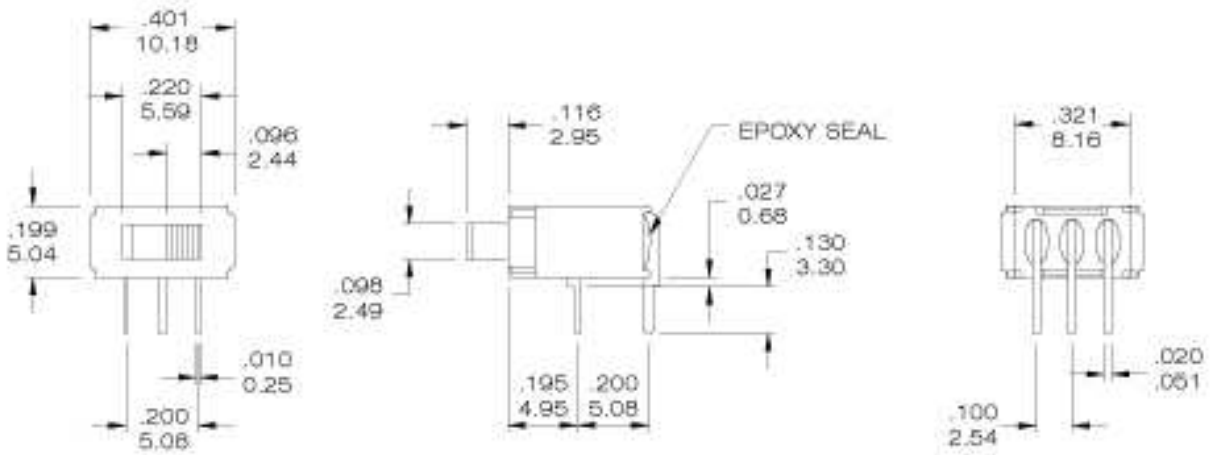
How to order:



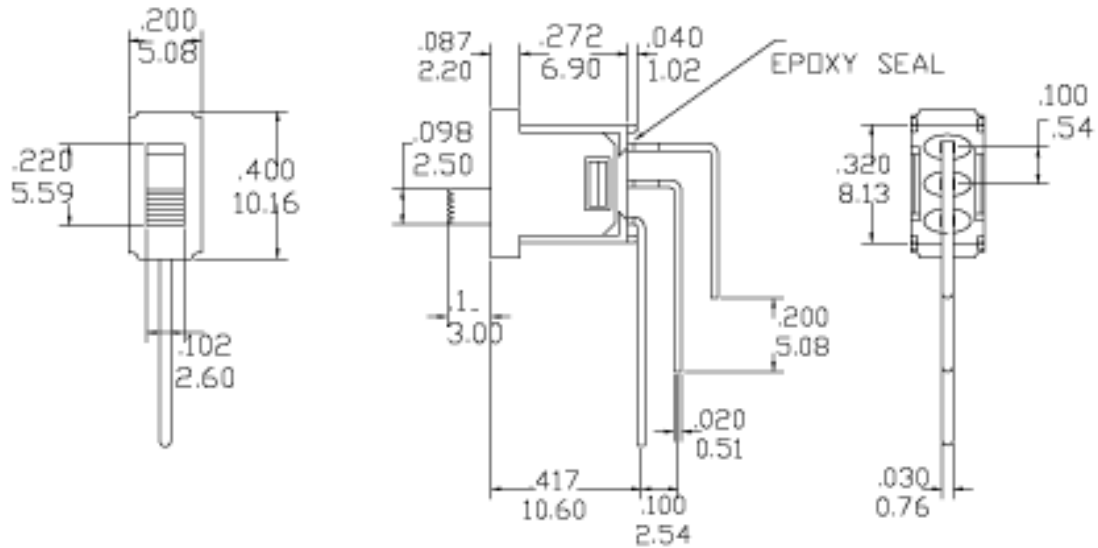
Standards PCB type:



Right-Angled PCB type for Horizontal Actuation:



Right-Angled PCB type for Vertical Actuation:



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[TB](#)



••••

•••••, IP67••••, ••••••••••

[TA](#)



••••

••••••••, ••••••

[L7](#)



••••

••••, ••15A 125VAC 10A 250VAC (CUL)

[ES](#)



PCB

••••••, IP67••••

[A](#)



•••• PCB

••••••

[MA](#)



•••• PCB

••••••

TB SERIES

Sealed Toggle Switch, meeting IP67 standard
Metal or Plastic toggle Acuator; SPST, SPDT, DPST or DPDT



- Contact Rating: 12 A, 125VAC/250VAC(UL,CUL) 1HP, 250VAC; 1/2 HP, 125VAC; 5A 125VL (Tungsten) (UL,CUL)
- Contact resistance : 50m Ω max
- Dielectric Strength: 1500 Volts RMS
- Insulation Resistance: 50 Megohms
- Life: 50,000 cycles
- IP67 protection level for the entire switch
- Metal bat or plastic toggle
- Solder, quick connect, screw type or binding terminals
- hex nut, gasket, and rubber boot accessories available upon request.
- Operation Temperature: -40°CXC~ +85°CXC

How to order

TB1

— B

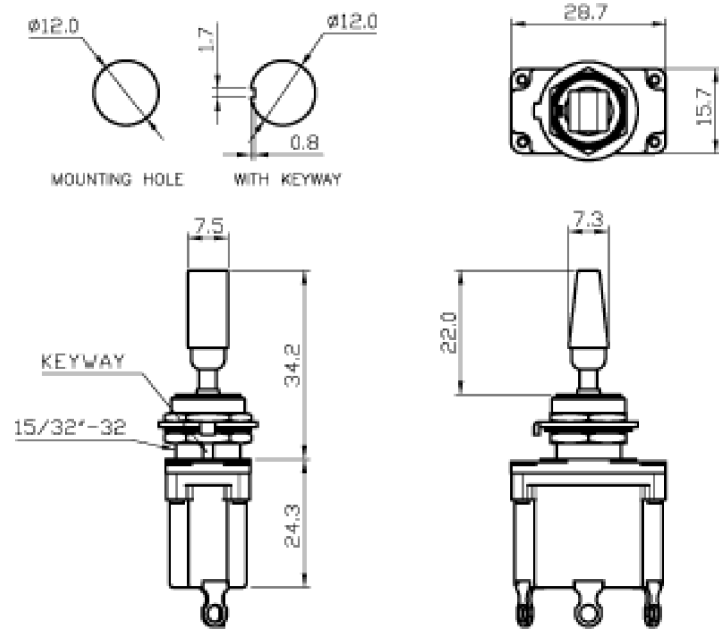
1

7

SERIES SYMBOL	LEVER	TERMINAL	POSITION & FUNCTION		
TB1 SERIES (1 POLE, 3 POS.)	P PLASTIC	1 QC (.250)	TWO POSITIONS		THREE POSITIONS
TB2 SERIES (1 POLE, 2 POS.)	B BRASS	2 QC (.187)	TB2 (1 POLE)	TB1 (1 POLE)	TB3 (2 POLES)
TB3 SERIES (2 POLE, 3 POS.)		3 SOLDER	*2 OFF-ON	1 ON-OFF-ON	1 ON-OFF-ON
TB4 SERIES (2 POLE, 2 POS.)		4 SCREW	*3 ON-ON	5 (ON)-OFF-ON	5 (ON)-OFF-ON
		*5 BINDING	4 (OFF)-ON	7 (ON)-OFF-(ON)	7 (ON)-OFF-(ON)
			6 (ON)-OFF	21 NONE-OFF-ON	21 NONE-OFF-ON
			8 (ON)-ON	31 NONE-ON-ON	31 NONE-ON-ON
				61 (ON)-OFF-NONE	61 (ON)-OFF-NONE
			TB4 (2 POLES)		10 ON-ON-ON
			*2 OFF-ON		12 ON-ON-ON
			*3 ON-ON		
			4 (OFF)-ON		
			6 (ON)-OFF		
			8 (ON)-ON		

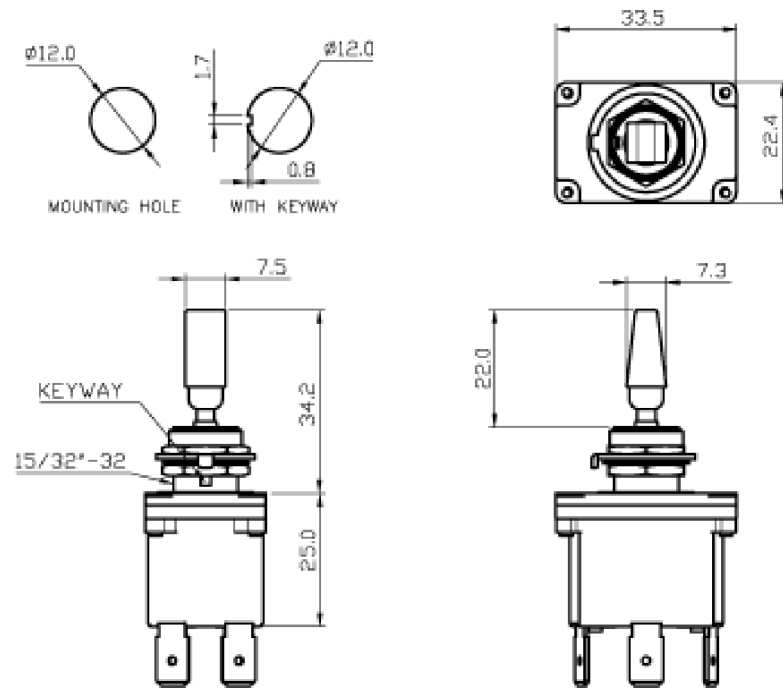
NOTE: "*" WITHOUT UL APPROVAL

TB1-P37
(ON)-OFF-(ON)



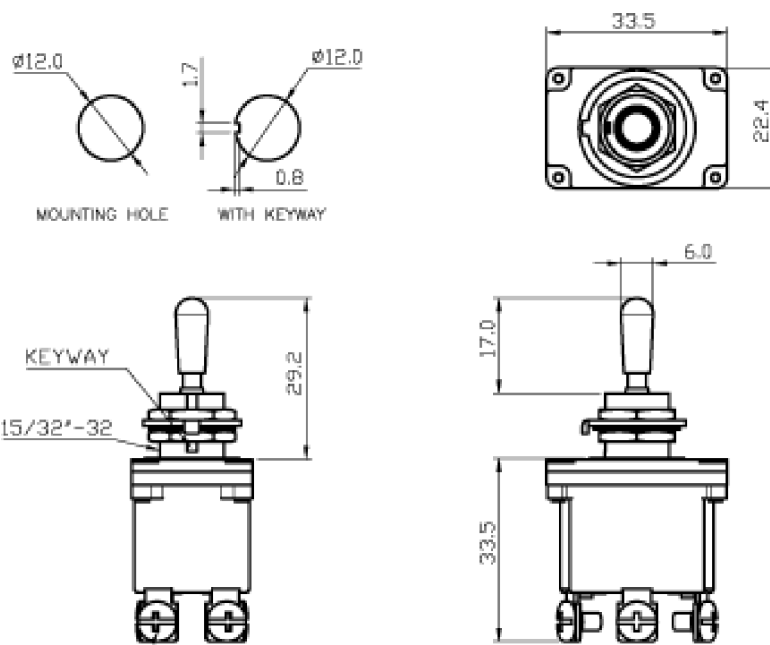
i@

TB3-P17
(ON)-OFF-(ON)



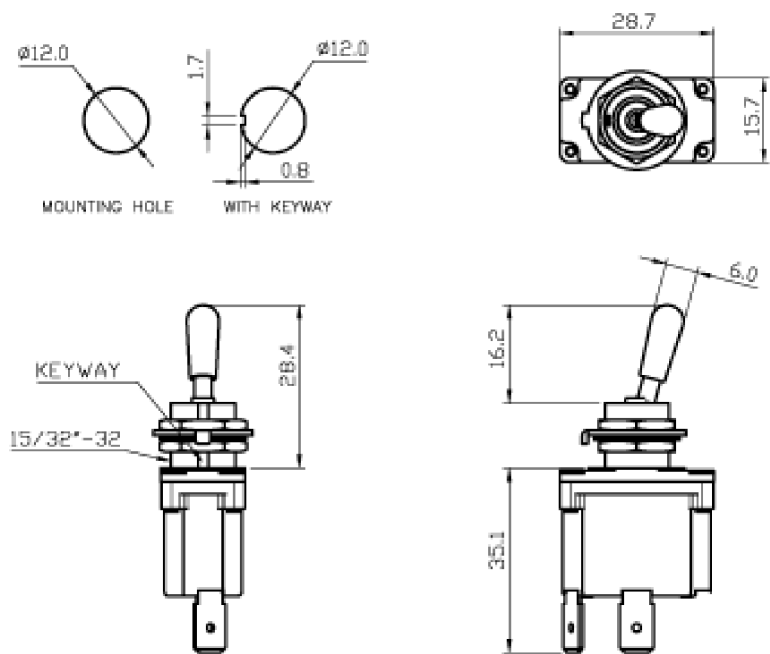
i@

TB3-B41
ON-OFF-ON



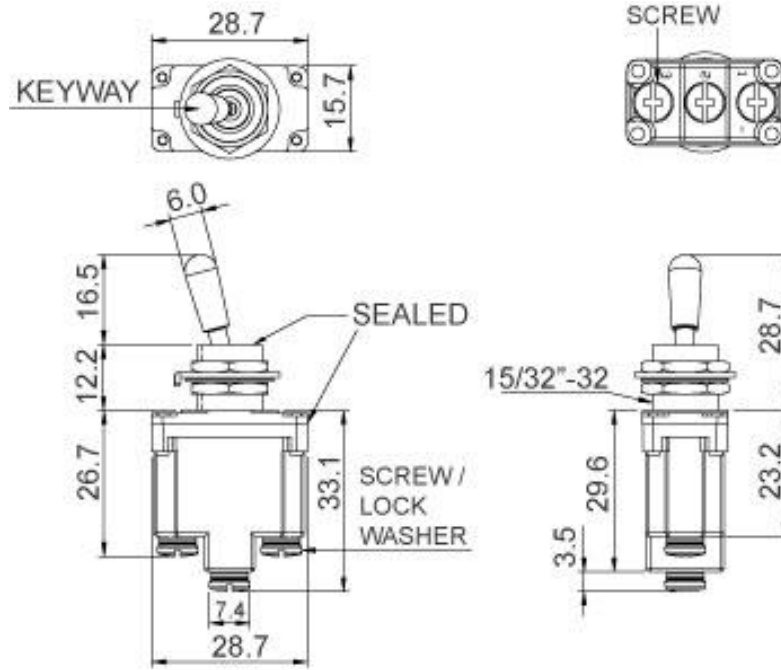
i@

TB2-B14
(OFF)-ON



i@

TB2-B53
ON-ON
i@



i@

TA-series

Toggle Switches with Wires up to 3A 125 " L " Rating, Nameplate Optional

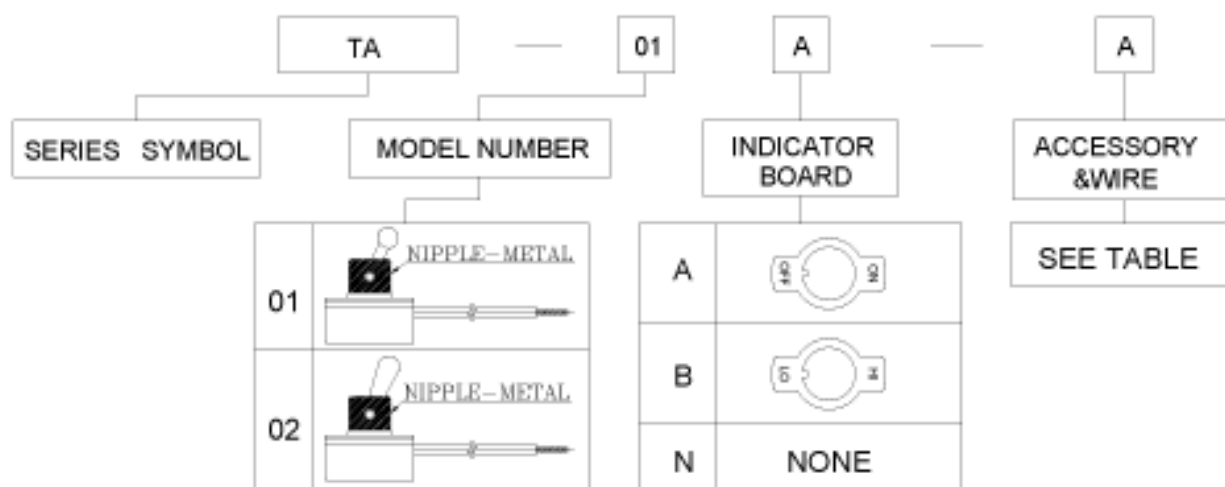


[Different shape of toggle actuator available](#)

- Rating : 6A 125VAC, 3A 250VAC (UL)
- 3A 125VAC "L" (UL)
- Initial contact resistance : 50m ohm (max.)
- Insulation resistance : 500VDC 100M ohm (min)
- Dielectric strength : 1,000VAC for 1 minute
- Life cycle : 10,000 cycles
- Temperature range : 0 to + 65 degrees in Celsius
- Switching function : ON-OFF
- Toggle actuator : Nickel-plated brass
- Base : Phenolic, UL94V-0
- Spring : Steel wire
- Bushing : Nickel-plated brass
- On-Off indicator plate: Nickel-plated steel, keyed to bushing
- Base cover : Phenolic laminate
- Nuts : Nickel-plated brass
- Moving contact : Silver-plated brass
- Fixed contact : Silver-plated copper alloy
- Wire : 18 AWG, 6" long, end stripped 3/4", wire length customized

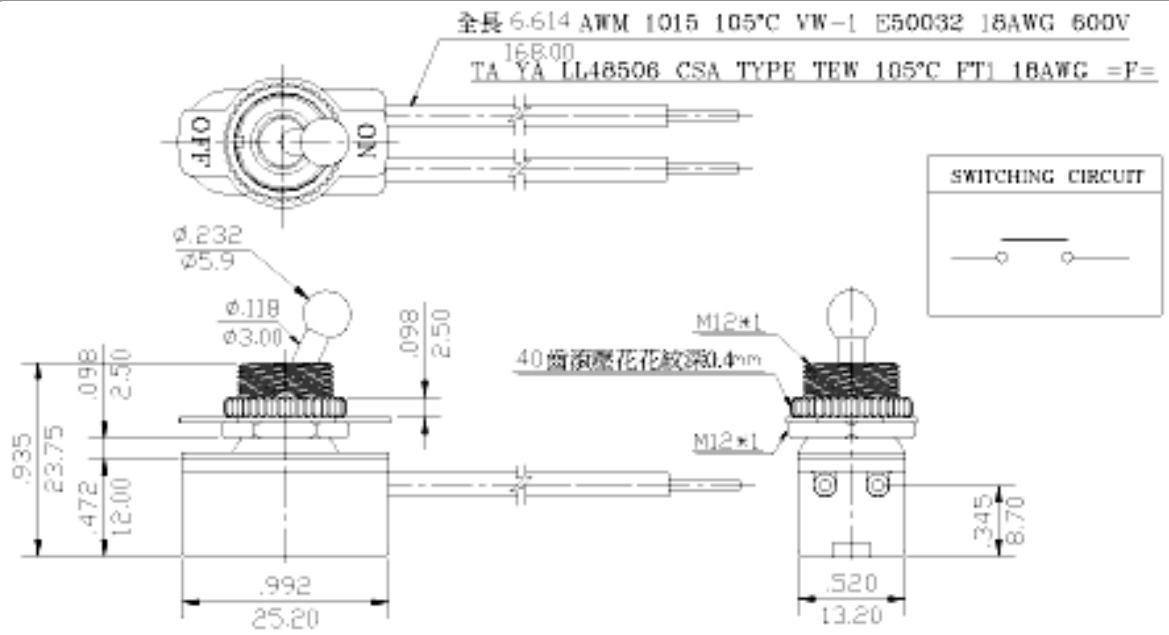
i@
[How to order](#)

i@





TA round-ball actuator



L7 SERIES

HEAVY DUTY TOGGLE SWITCHES; UP TO 15A 125VAC, 10A 250VAC

Function: SPST, SPDT, DPST, DPDT, 3PDT, 4PDT



i@



- RATING: 15A 125VAC, 10A 250VAC(UL)
20A 125VAC, 15A 250VAC
- Insulation Resistance: DC 500V 200M or More
- Contact Resistance: DC 2-4V 1A 20M or Less
- Withstand Voltage: AC 1500V or More
- Please contact sales if name plated is needed

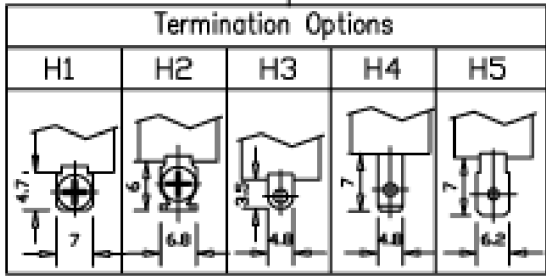
How to order

L7-A-11-1

H1

R

MODEL NO.	FUNCTION		
L7-A-11-1	SPST	ON-OFF	✱
L7-A-11-4	SPST	(ON)-OFF	
L7-A-11-2	SPDT	ON-ON	✱
L7-A-11-5	SPDT	(ON)-ON	
L7-A-11-3	SPDT	ON-OFF-ON	✱
L7-A-11-6	SPDT	(ON)-OFF-ON	
L7-A-11-7	SPDT	(ON)-OFF-(ON)	
L7-A-12-1	DPST	ON-OFF	✱
L7-A-12-4	DPST	(ON)-OFF	
L7-A-12-2	DPDT	ON-ON	✱
L7-A-12-5	DPDT	(ON)-ON	
L7-A-12-3	DPDT	ON-OFF-ON	✱
L7-A-12-6	DPDT	(ON)-OFF-ON	
708-1	3PDT	ON-ON	
708-2	3PDT	ON-OFF-ON	
709-1	4PDT	ON-ON	
709-2	4PDT	ON-OFF-ON	



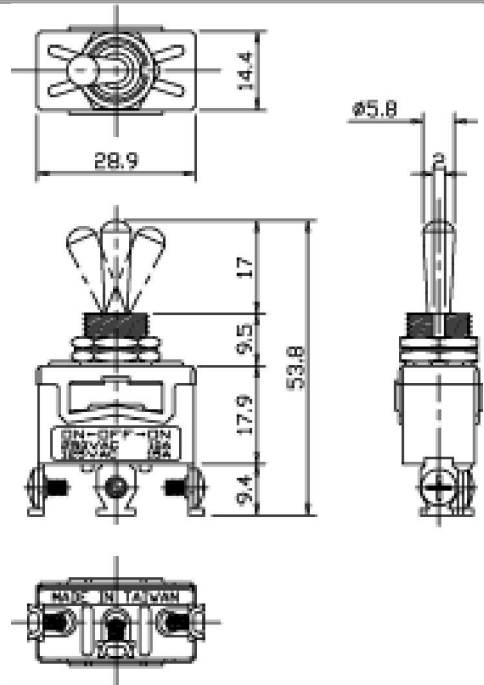
RoHS option	
	Non-RoHS
R	RoHS

✱ UL/CUL AVAILABLE; ONLY FOR 15A 125VAC 10A 250VAC



i@

L7-A-11-2-H2
(SPDT ON-ON)

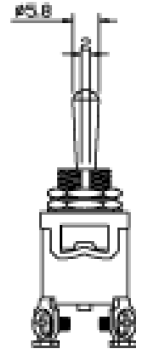
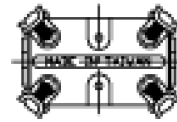
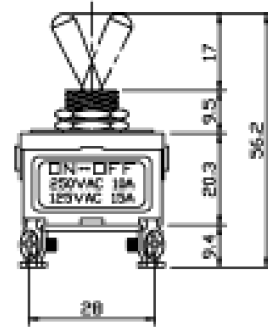
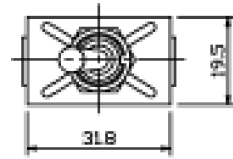


heavy toggle switch



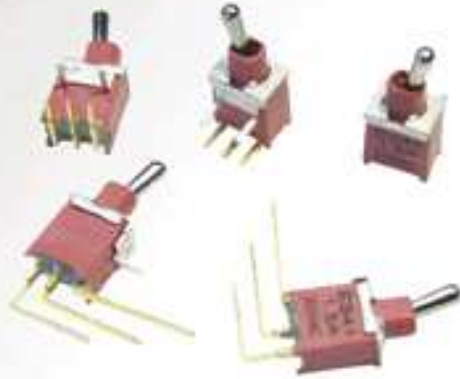
i@

L7-A-12-1-H2
(DPST ON-OFF)

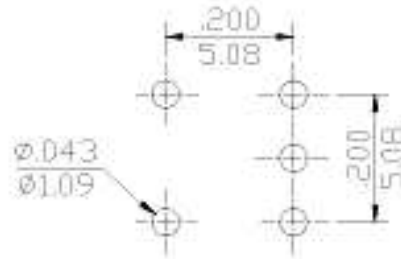


ES-series, Sealed Sub miniature toggle switches

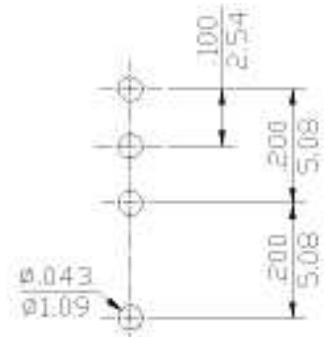
SURFACE MOUNTING, COMFORMING TO IP67 STANDARDS, UP TO 1.5A 250VAC



PCB Mounting



A3 TYPE



A4 TYPE

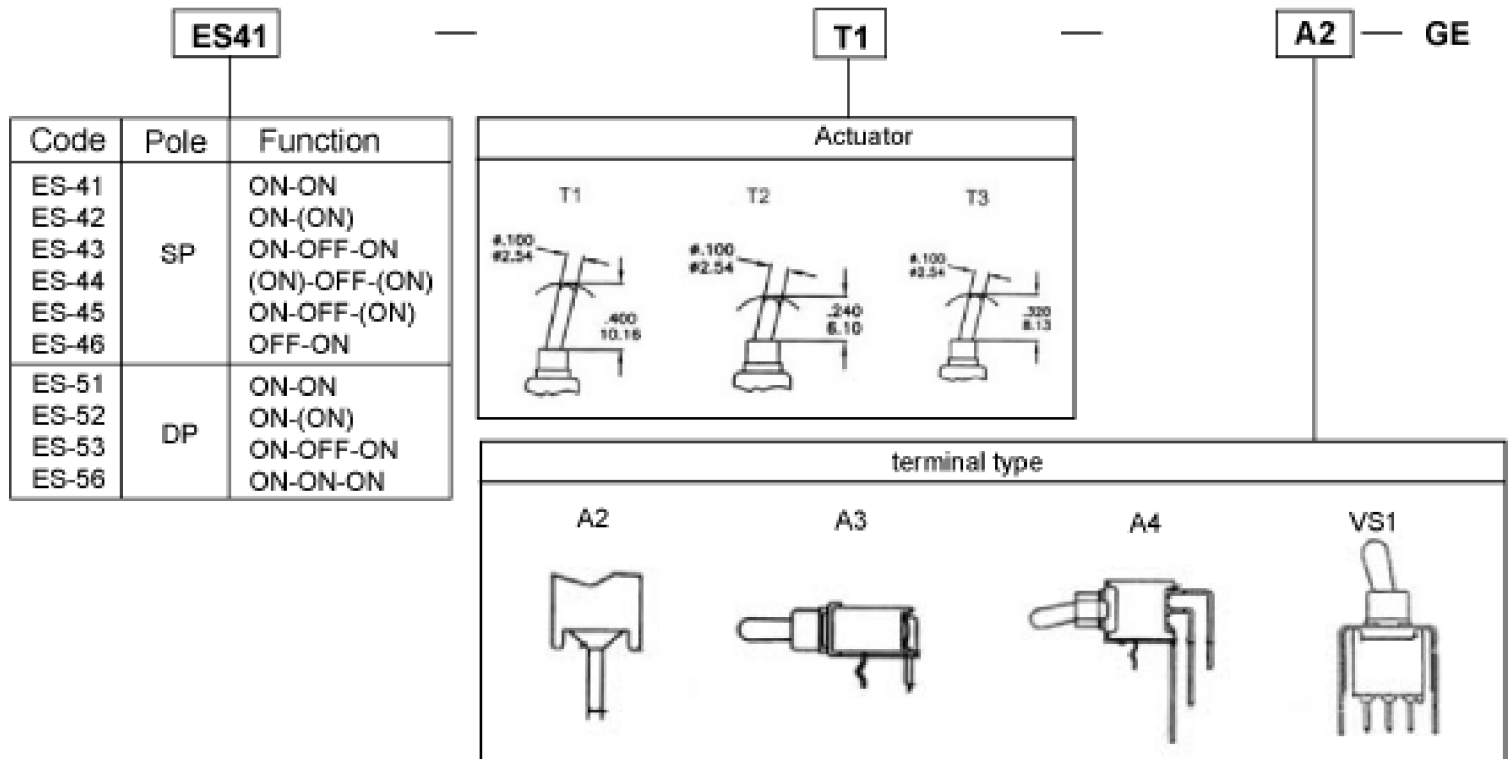
- 1.5A 250VAC
- 0.4A 20VDC
- Initial contact resistance : 50m ohm (max.)
- Insulation resistance : 1000M ohm (min)
- Dielectric strength : 1,000VAC for 1 minute
- Life cycle : 30,000 cycles
- Temperature range : -30 to + 85 degrees in Celsius

- Actuator : Brass, chrome plated, internal o-ring seal
- Bracket: Brass, tin-plated
- Housing : Nylon 66, UL rated 94V-0 min
- Terminals : copper alloy with gold plated over nickel plate.
- Contact : copper alloy with gold plated over nickel plate.

i@

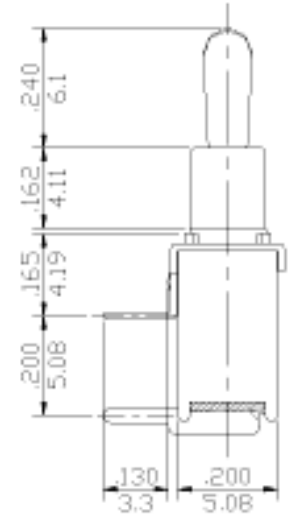
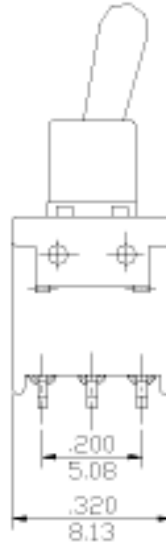
How to order:

i@

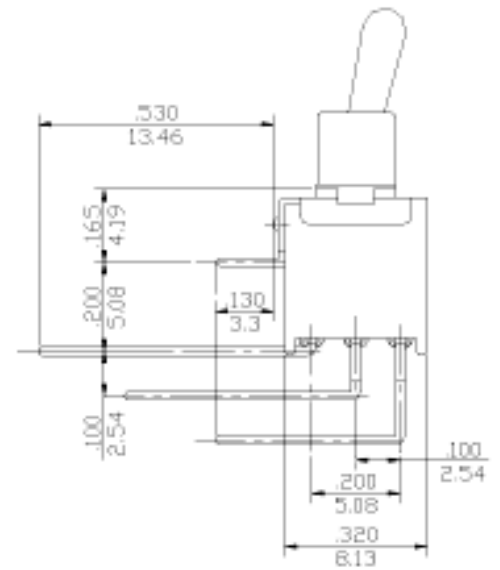
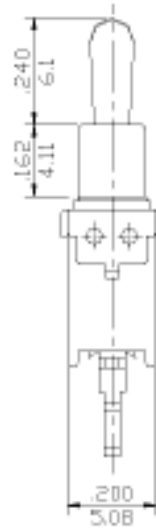




ES-41T2A3
(ON-ON)



ES-41T2A4
(ON-ON)



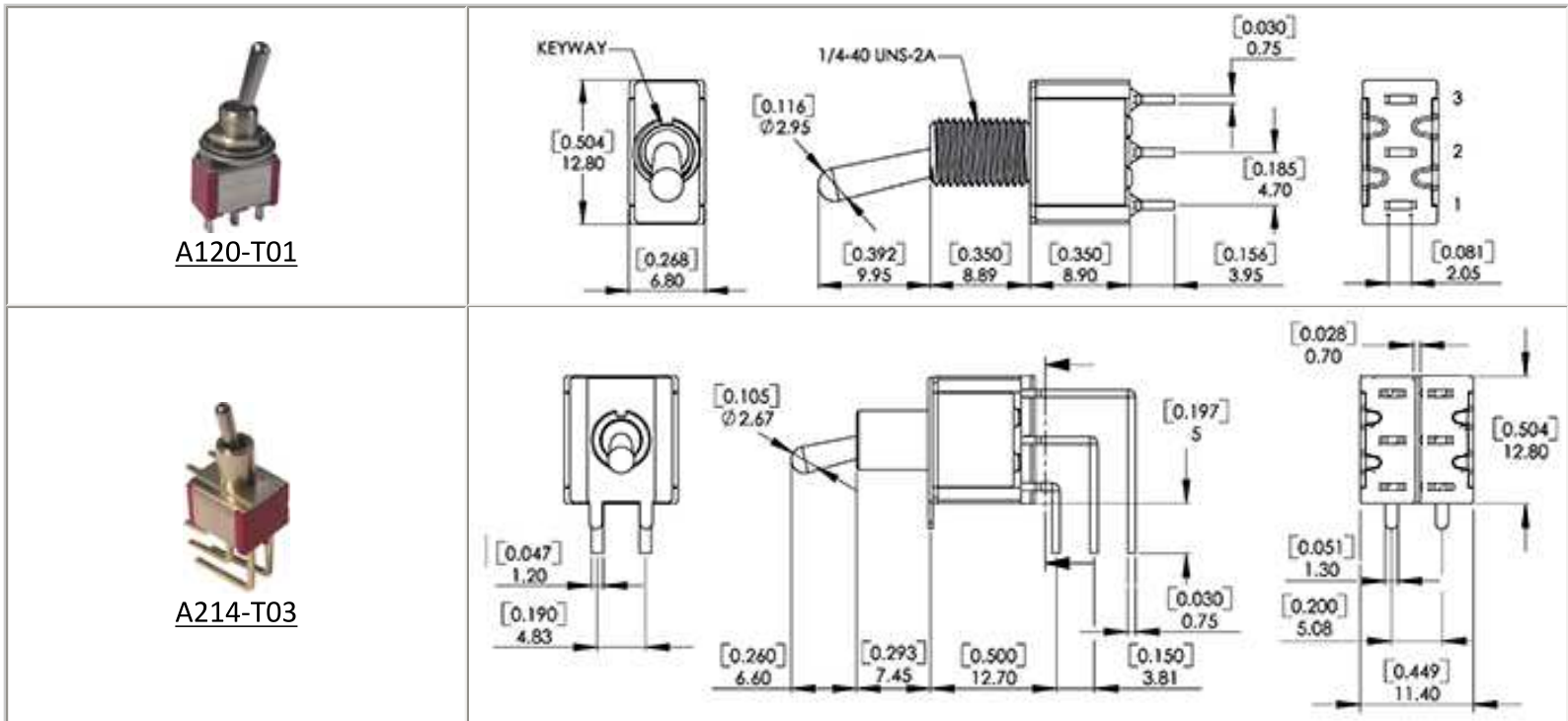
A SERIES

Miniature toggle switches up to 5A 120VAC



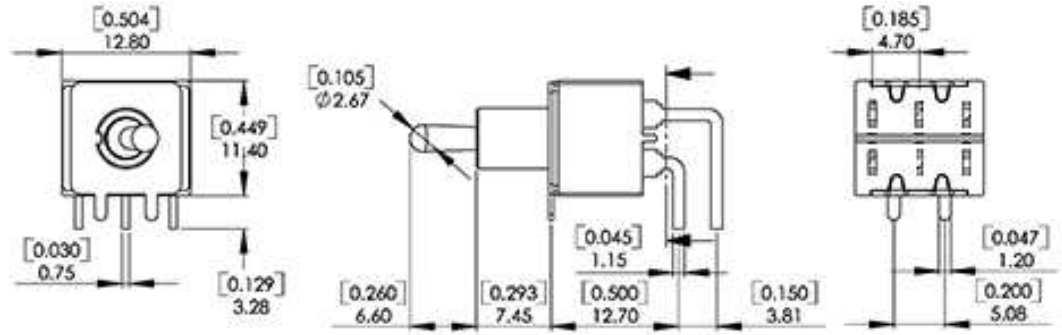
- 5A 120VAC, 2A 250VAC (UL)
- 5A 28VDC (UL)
- Initial contact resistance : 10m ohm (max.)
- Insulation resistance : 1000M ohm (min)
- Dielectric strength : 1,000VAC for 1 minute
- Life cycle : 50,000 cycles
- Operating temperature : -30 to +130 degrees in Celsius
- Base : Diallyl phthalate (DAP)
- Toggle actuator : Brass
- Bushing : Brass, nickel plated
- Gasket: nickel-plated steel
- Nuts: Brass, nickel plated
- Housing : Stainless steel.
- Terminals : silver plated brass or gold plated optional
- contact : Silver plated copper, gold plated optional
- Epoxy sealed optional

[How to order](#)

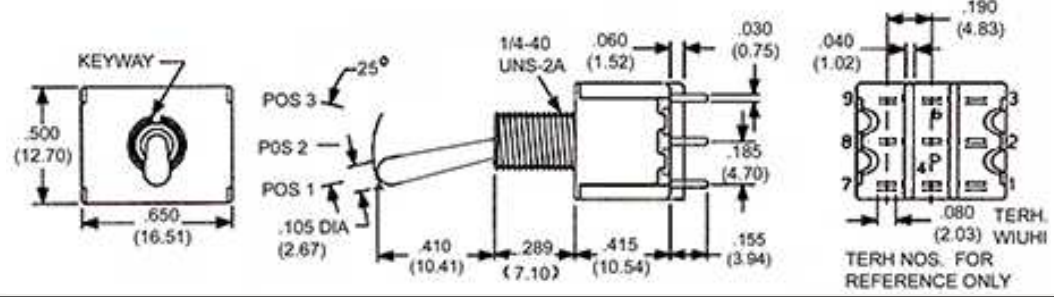




A213-T03



A310-T01



A1

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




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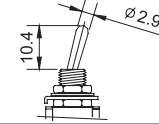
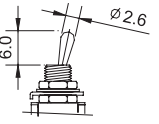
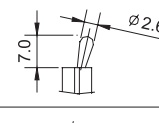
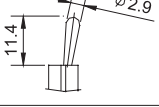
0

1

SERIES SYMBOL		TOGGLE
A1	1 POLE	
A2	2 POLES	
A3	3 POLES	
A4	4 POLES	
A1R	1 POLE	ROCKER
A2R	2 POLES	
A3R	3 POLES	
A4R	4 POLES	

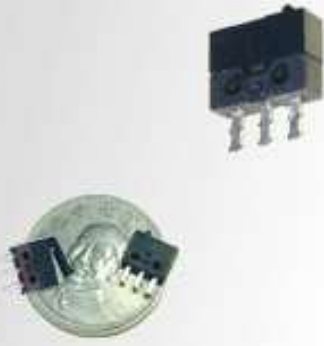
SWITCHING FUNCTION	
1	ON-ON
2	ON-OFF-ON
3	ON-OFF
4	ON-(ON)
5	(ON)-OFF-(ON)
6	ON-OFF-(ON)
7	OFF-(ON)

TERMINAL TYPE	
0	STANDARD 
1	PRINTED CIRCUIT 
3	RIGHT ANGLE (H) 
4	RIGHT ANGLE (V) 
5	VERTICAL BRACKET 

T=TOGGLE	
01	
02	
03	
04	

SPECIAL	
	STANDARD
G	TERMINAL GOLD PLATED
M	CONTACT ARM GOLD PLATED
A	SEE TABLE

TERMINAL SEAL	
	NON -SEAL
E	EPOXY SEAL



••		••••	••
PS056		••••	•••••,•• 16A 250VAC
M142		••••	22.5A 250VAC(UL/CUL)
M141T02		••••	10A 125VAC, 10A 250 (UL)
M140T01		••••	5A 125VAC, 5A 250VAC (UL), •••••
DM		••••	1A 125VAC(UL), ••••••
SSM		PCB	••••••, •••••
DS01,TPS		PCB	• •••••, •••••

M142 SERIES

SNAP ACTION MICRO SWITCHES UP TO 22.5A 250VAC
SPDT, SPST, ON-(ON), OFF-(ON) or ON-(OFF)

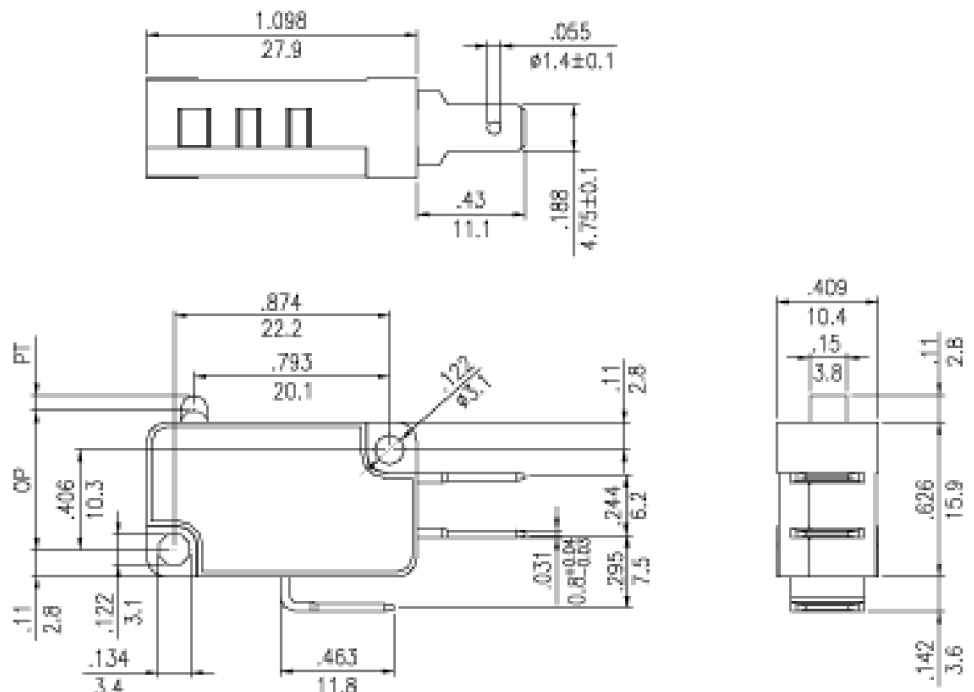


- 22.5A 125/250VAC (UL/CUL)
- 16A 125/250VAC (UL/CUL)
- 20(8)A 250VAC (5E4) (Nemko, ENEC)
- 16(8)A 250VAC ~T125 (Nemko, ENEC)
- 25(10)A 250VAC ~T125 (Nemko, ENEC)
- Contact resistance : 20m ohm initial (max.)
- Dielectric strength : 1,000 VAC for 1 minute
- Insulation resistance : 50M ohm min.(at 500 VDC).
- Mechanical life cycle : 500,000
- Loaded life cycle : 10,000
- Plunger: PBT
- Cover: PBT 94V-0 (min)
- Base: PBT 94V-0 (min)
- Terminal : Tin or silver plated copper alloy
- Contact : Silver alloy clad copper alloy & silver copper
- Spring : Steel wire
- Movable contacts : Tin or silver plated copper alloy

How to order

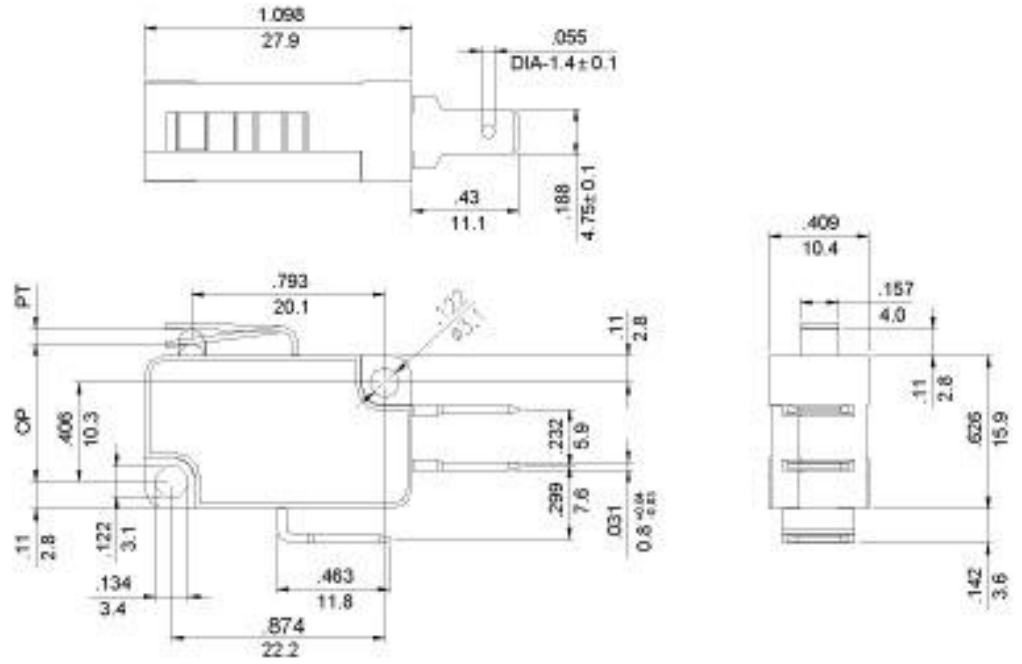


M142-AA1-1BB-4C

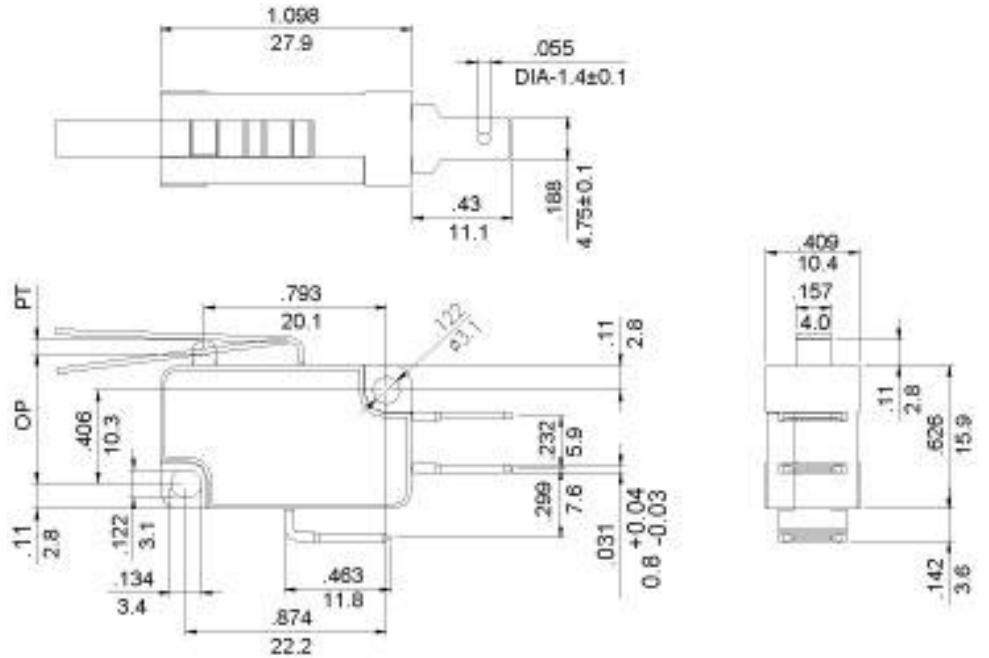




M142-AA1-2BB-4C5

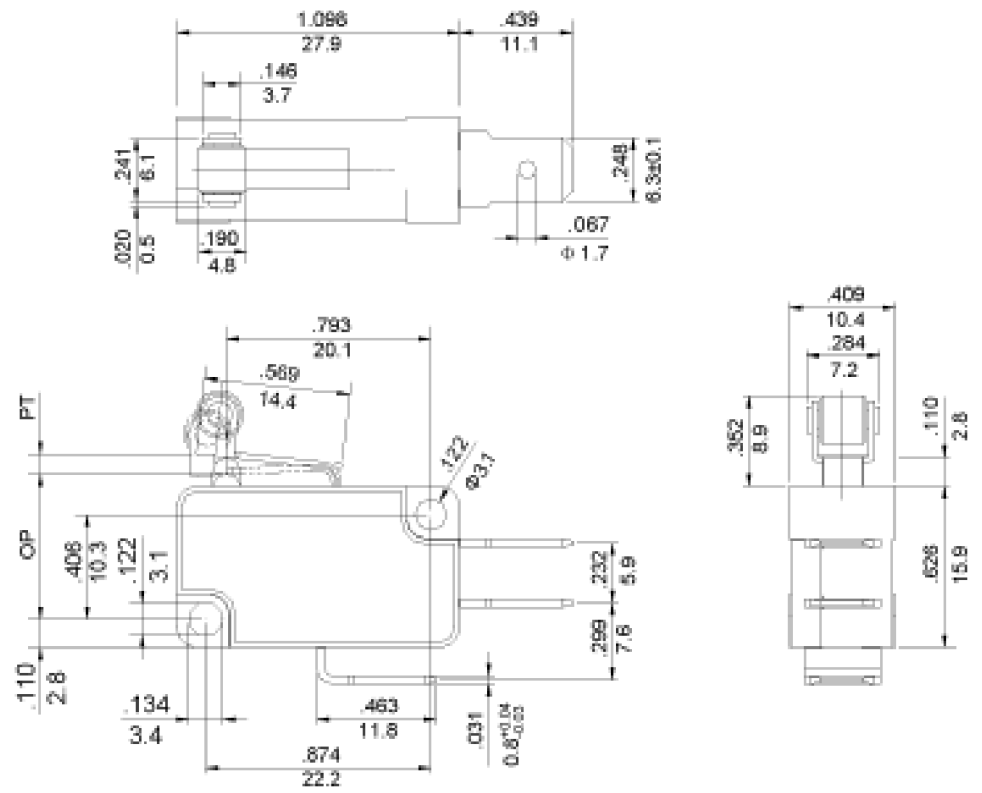


M142-AA1-2BB-4C4

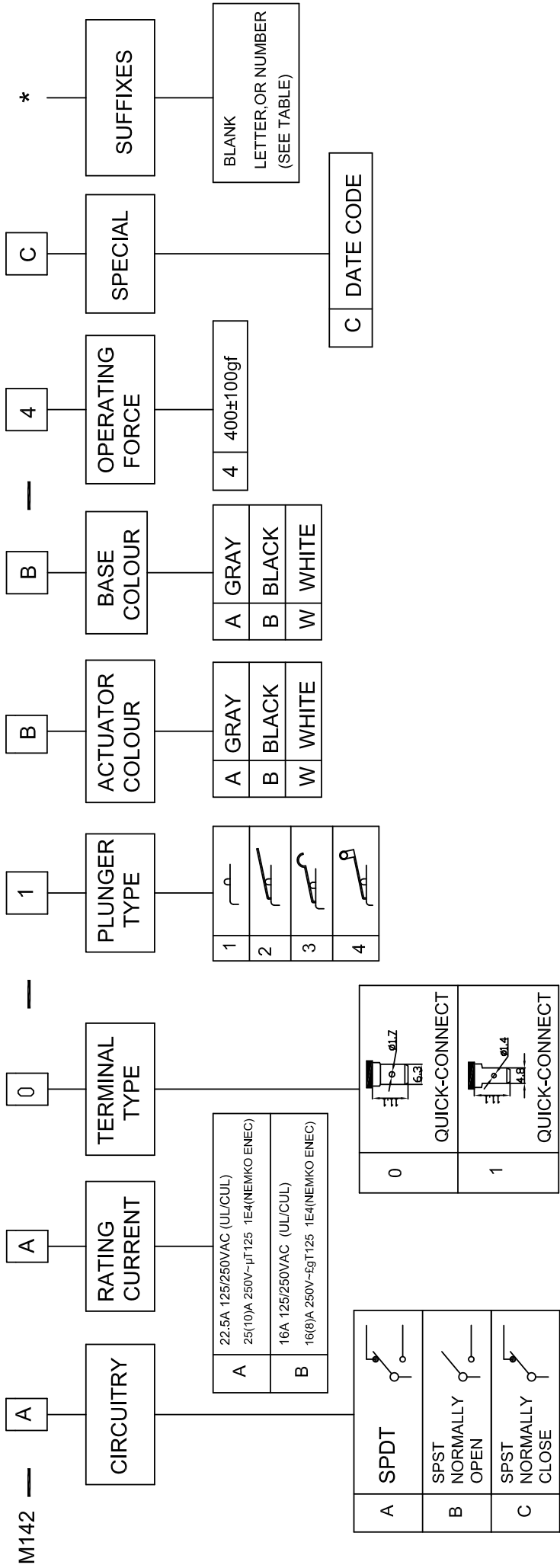


CANAL M142
V&L 24000000
www.v&l.com

M142-AA0-4BB-4C6

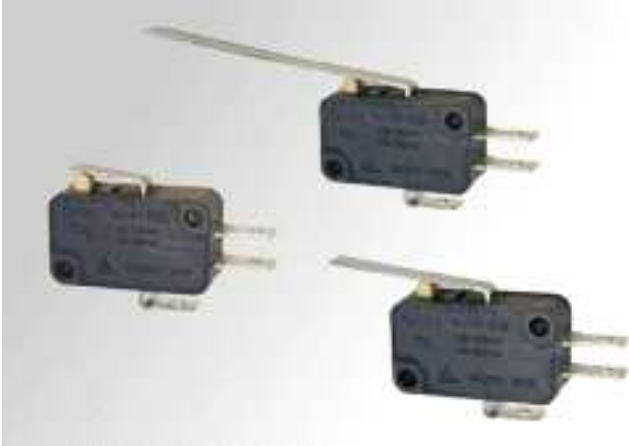


M142 SERIES MINIATURE SWITCHES MODEL NUMBER DESIGNATION SYSTEM



M141T02 SERIES

SNAP ACTION MICRO SWITCHES UP TO 10A 250VAC
SPDT, SPST, ON-(ON), OFF-(ON) or ON-(OFF)



- 10A 125/250VAC (UL,CUL)
- 10(2)A 125/250VAC (NEMKO ENEC,CQC)
- Contact resistance : 50m ohm initial (max.)
- Dielectric strength : 1,000 VAC for 1 minute
- Mechanical life cycle : 100,000
- Loaded life cycle : 50,000
- Temperature range : -25 to + 130 degrees in Celsius
- Case : PBT
- Actuator : Stainless steel.
- Button : PBT.
- Contacts : Silver alloy.
- Mechanical operating frequency : 60/ min.
- Electrical operating frequency : 6-12/ min.

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How to order

M141T02






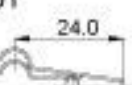
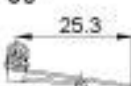
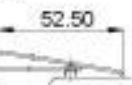


A

C

03

02

D

SERIES SYMBOL	CIRCUITRY	OPERATING FORCE	RATING CURRENT	ACTUATOR TYPE	TERMINAL TYPE
M141T02 SERIES	A SPDT  B SPST NO  C SPST NC 	SEE CHART	03 10A 125/250VAC	00  04  01  05  02  06  03 	C QUICK CONNECT 250 (6.3mm) D QUICK CONNECT 187 (4.8mm) (standard)

OPERATING FORCE LIST

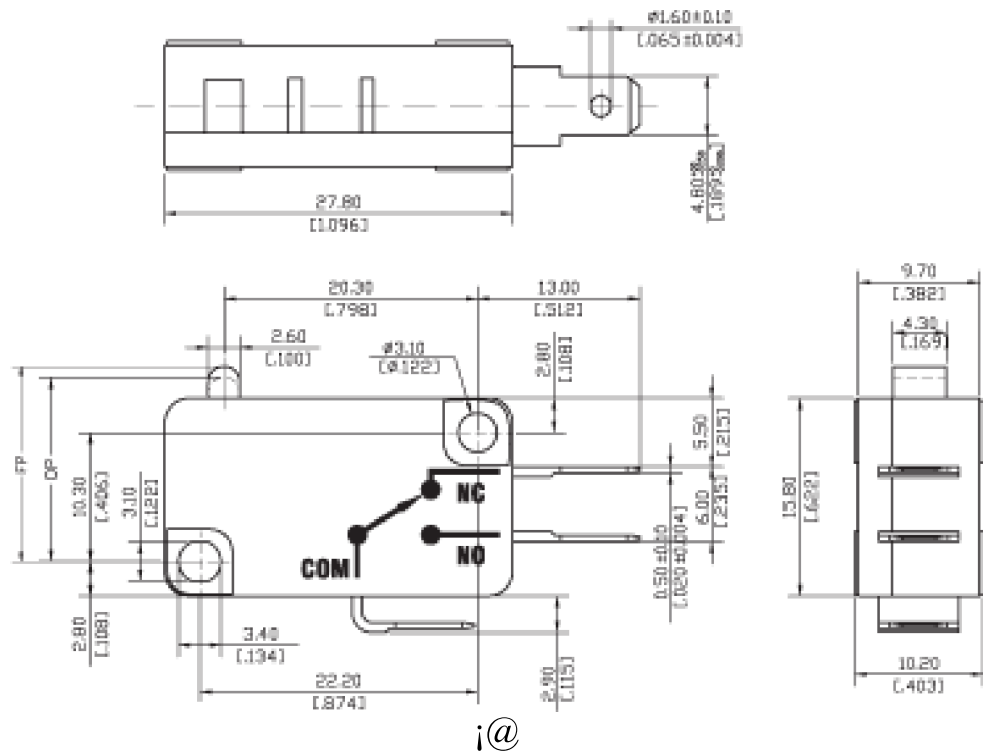
Code Actuator	A	B	C	D	OP(mm)	FP(Max.) mm
00	80±25	160±40	200±40	350±60	14.7±0.8	16.4
01	40±20	80±30	100±30	170±40	18.7±1.8	22.0
02	20±10	35±15	40±20	75±30	15.3±2.5	22.0
03	40±20	80±30	100±30	170±40	15.3±1.8	19
04	80±30	160±40	200±40	350±50	15.3±0.8	17
05	40±20	80±30	100±30	170±40	20.7±2.0	24.0
06	80±30	160±40	200±40	350±50	20.7±1.5	22.5



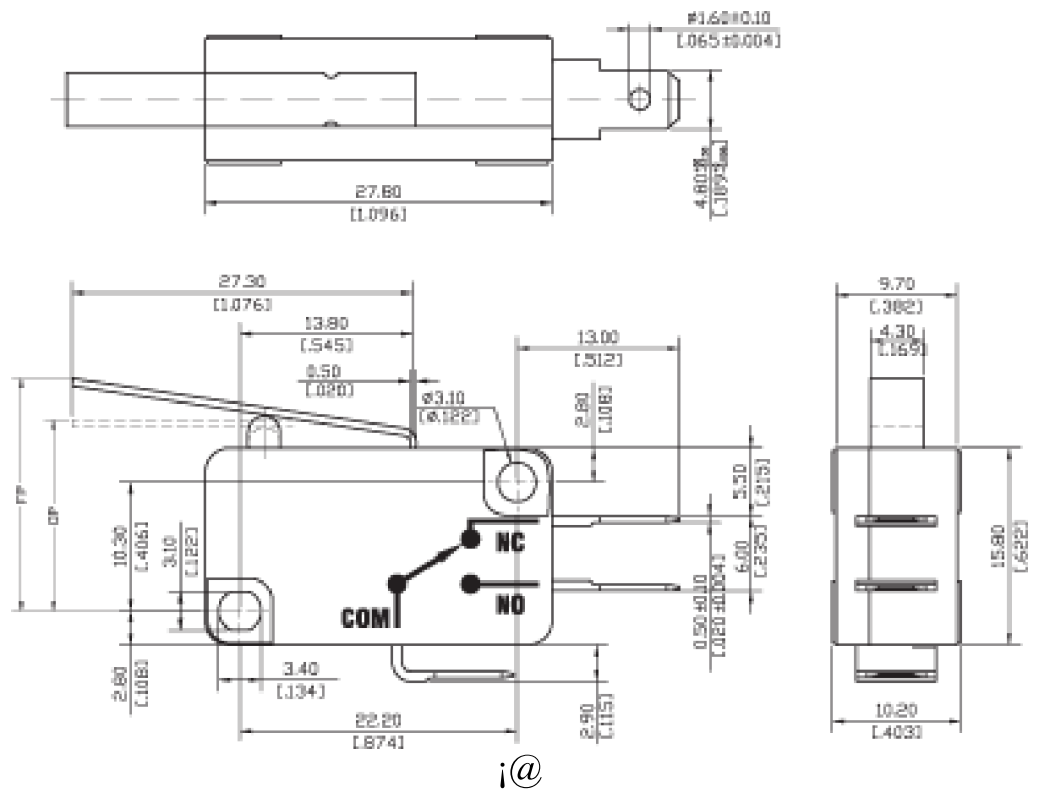
M141T02-A*0300D

OP: 14.7mm

PT: 1.2mm



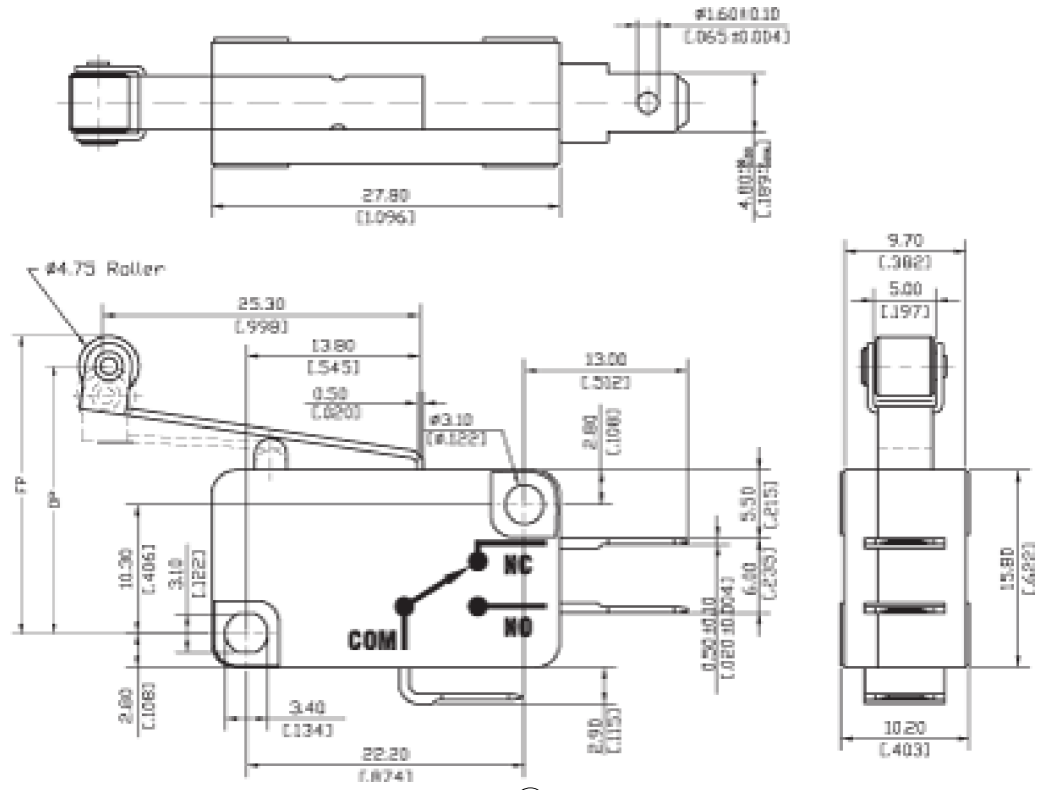
M141T02-A*0303D
 OP: 15.3mm
 PT: 3.2mm





M141T02-A*0305D
OP: 20.5mm
PT: 3.2mm

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M140T01 SERIES

SNAP ACTION MICRO SWITCHES UP TO 5A 125VAC
SPDT, SPST, ON-(ON), OFF-(ON) or ON-(OFF)



- 5A 125/250VAC (UL/CUL)
- 5(2)A 125/250VAC (NEMKO ENEC, CQC)
- Contact resistance : 500m Ω[initial (max.)
- Insulation resistance :500VDC 100M Ω[(min.)
- Dielectric strength : 1,000 VAC for 1 minute
- Mechanical life cycle : 1,000,000
- Loaded life cycle :50,000
- Temperature range : -40 to + 125 degrees in Celsius

- Case : PBT
- Actuator : Stainless steel.
- Button : PBT
- Contact : Silver alloy, gold optional
- Mechanical operating frequency : 60//min.
- Electrical operating frequency : 6~12/min.

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How to order

M140T01—







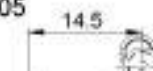

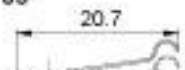



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— 01

A

SERIES SYMBOL	CIRCUITRY	OPERATING FORCE	RATING CURRENT	ACTUATOR TYPE	TERMINAL TYPE
M140T01 SERIES	A SPDT  B SPST NO  C SPST NC 	SEE CHART	05 5A 125/250 VAC	00 PIN PLUNGER  01  02  05  07  09 	A SOLDER  B QUICK CONNECT  C PCB PIN 

OPERATING FORCE LIST

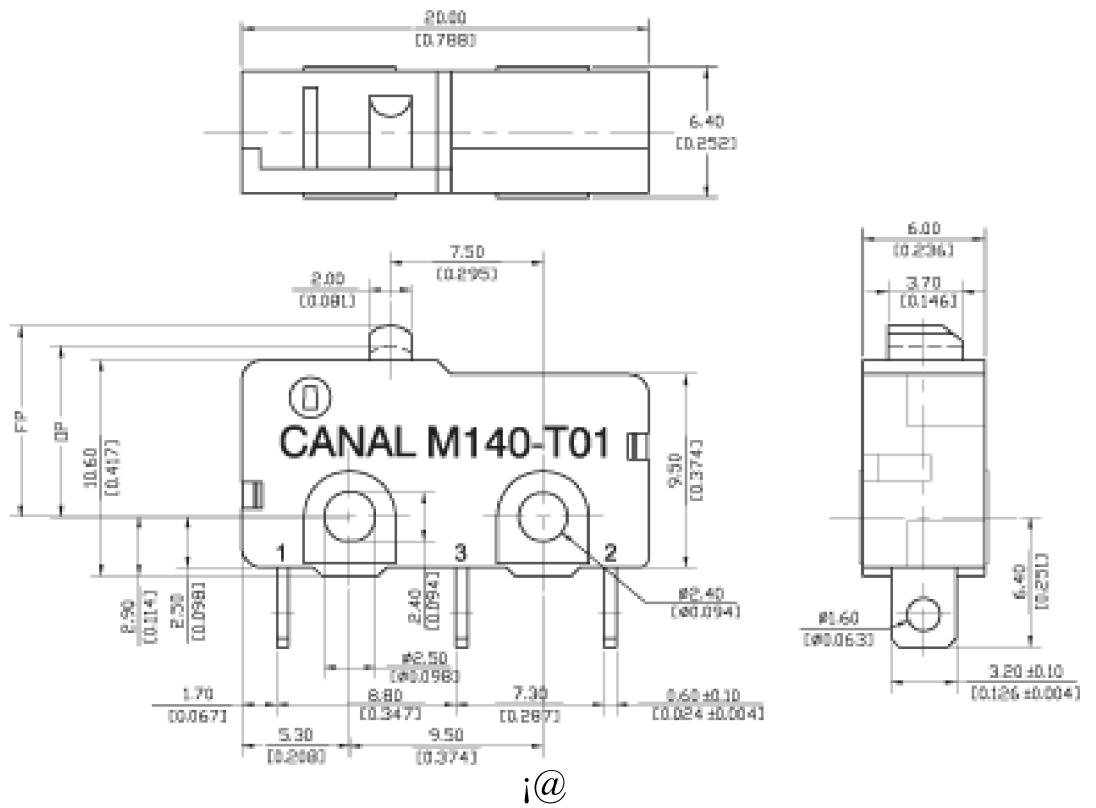
Code Actuator	B	C	D	E	OP(mm)	FP(Max.) mm
00	130+30	160+30	200+40	250+50	8.4+0.5	9.4
01	35+15	45+20	55+20	60+20	9.4+1.5	12.6
02	30+15	40+20	50+20	55+20	9.4+1.5	13.1
05	30+15	40+20	50+20	55+20	15.5+1.5	18.9
07	13±5	15±5	20±10	25±15	10.1±2.0	17.1
09	35+15	45+20	55+20	60+20	11.1+1.5	15.3



M140T01-A*05-00A

OP: 11.3mm

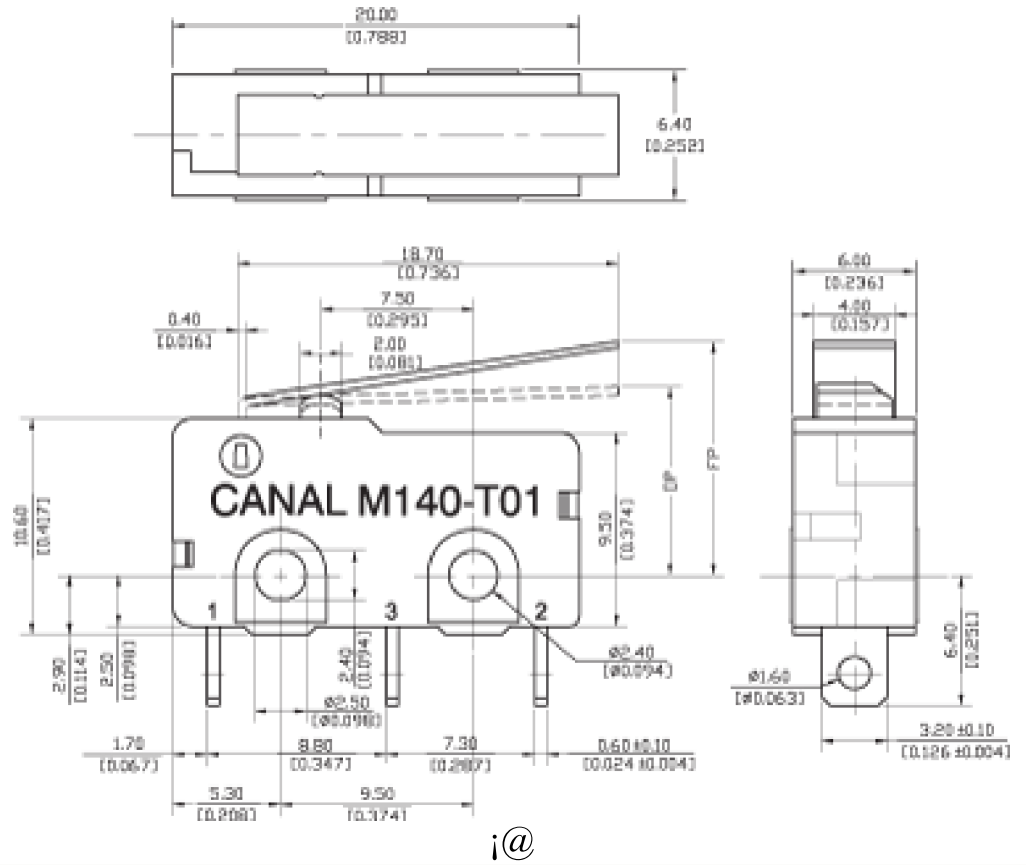
PT: 1.1mm



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M140T01-A*05-02A
 OP: 11.8mm
 PT: 4.2mm

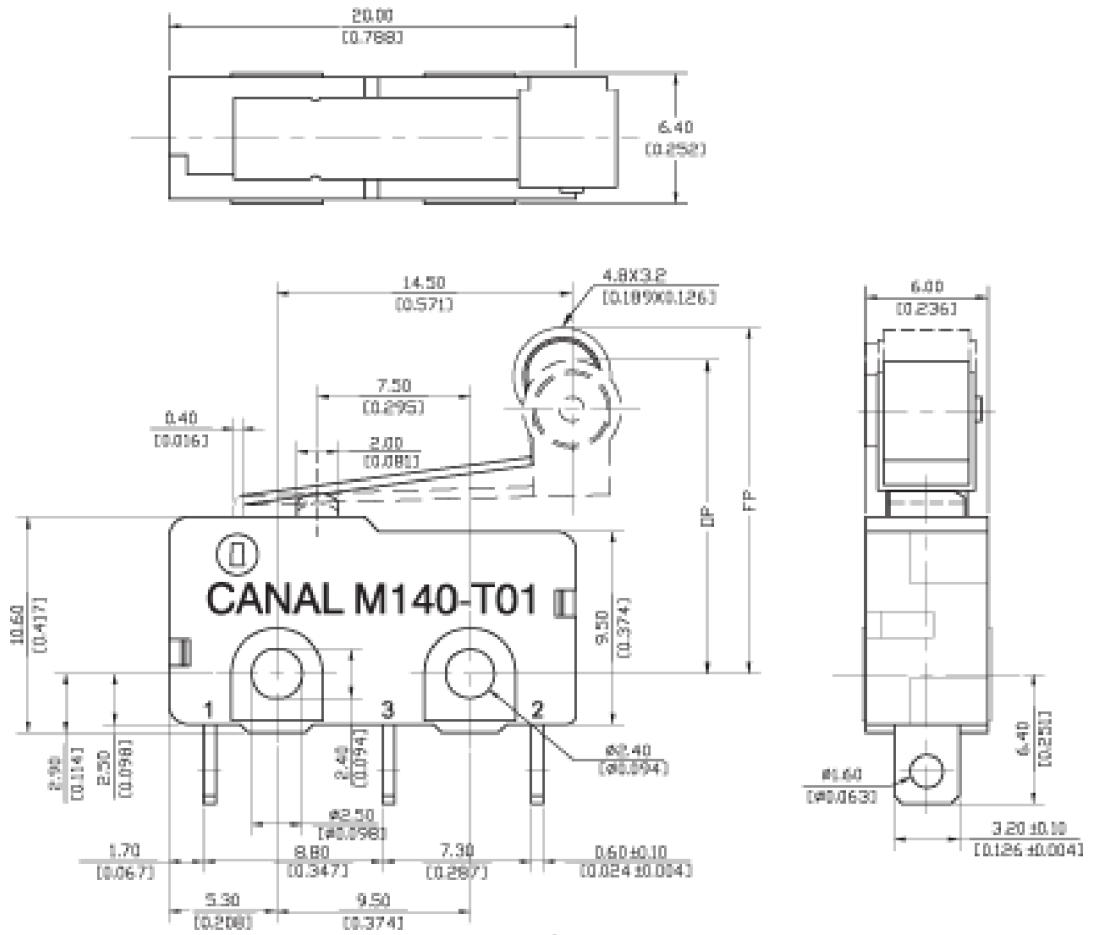


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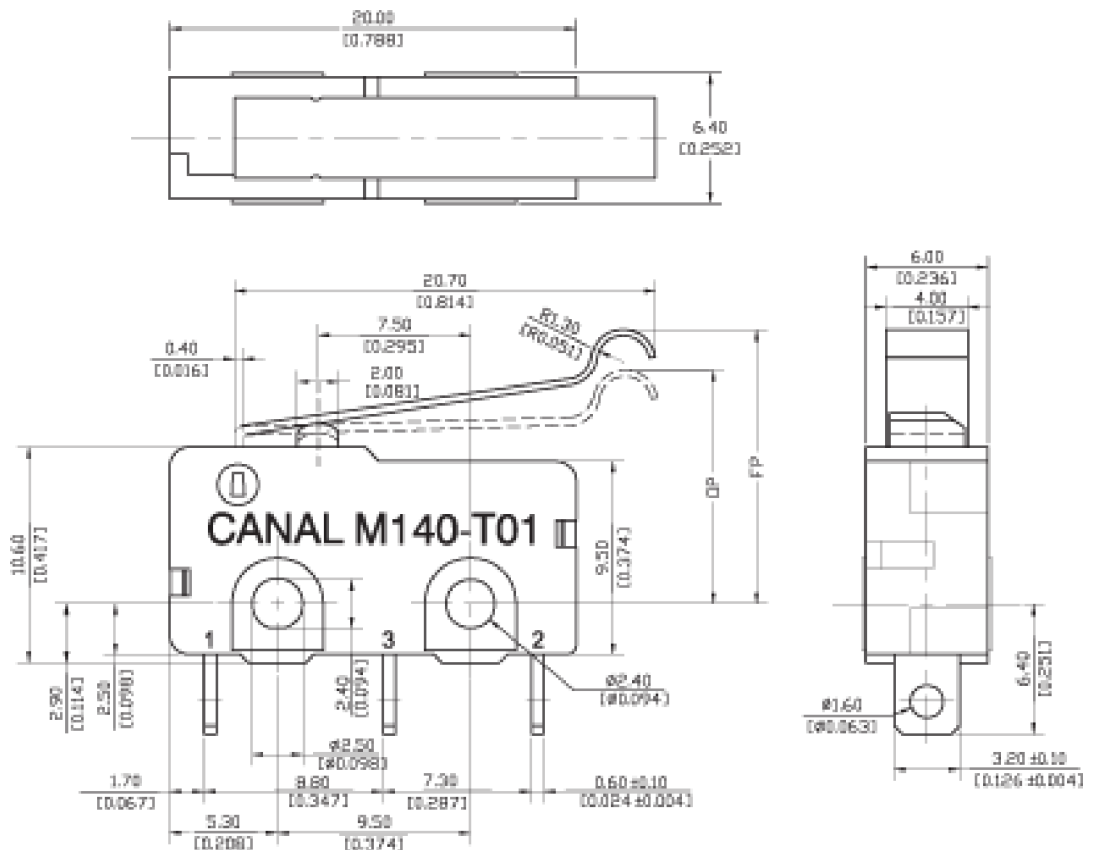
M140T01-A*05-05A
 OP:18.0mm
 PT: 4.0mm



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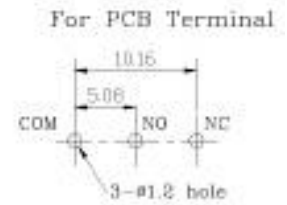
M140T01-A*05-09A
 OP:14.0mm
 PT:4.2mm



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DM SERIES SERIES

Subminiature snap action switches up to 3A 125VAC



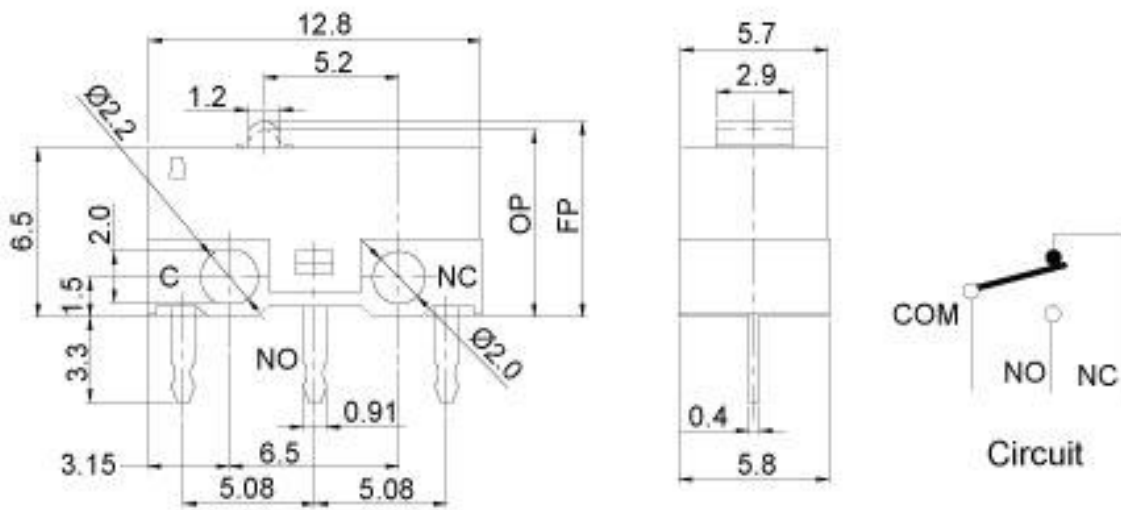
- 3A 125VAC 1.5A 250VAC (UL)
- 1A 125VAC (UL); DC5V 30mA
- Contact resistance : 100m ohm initial (max.)
- Insulation resistance :500VDC 100M (min.)
- Dielectric strength : 500 VAC for 1 minute
- Insulation resistance : 100M min.(at 500 VDC).
- Mechanical life cycle : 1,000,000(DM3)
500,000(DM1)
- Loaded life cycle : 10,000
500,000(DC5V 30mA)
- Mechanical operating frequency : 120//min.
- Electrical operating frequency : 10/min
- Case : PBT
- Lever : SUS301
- Button : PBT.
- Contact : Silver alloy, gold optional
- Terminal : Silver plated brass(C2680), insert molded against flux penetration
- Temperature range : -25 to + 65 degrees in Celsius

How to order:

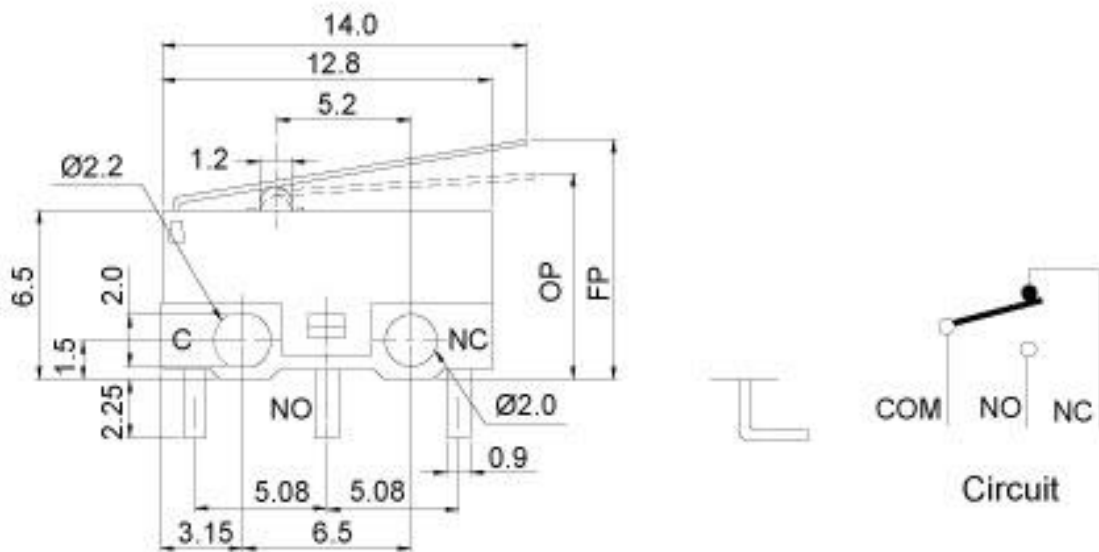
DM	1	01	P	30	3
SERIES SYMBOL	RATING	ACTUATOR TYPE	TERMINAL TYPE	OPERATING FORCE	BUTTON COLOR
DM SERIES	1 1A 125V 3 3A 125V	00 NONE 01  02  03 	P PC TERMINAL STRAIGHT C  D  N 	SEE CHART	3 WHITE -1A 6 GRAY-3A

OPERATING FORCE

ACTUATOR	OPERATING FORCE				OP(mm)	FP(Max.) mm
	60	90	110	130		
00	60	90	110	130	7.0±0.2	7.35±0.2
01	20	25	30	40	8.8±0.8	10.4±0.8
02	20	25	30	40	8.8±0.8	10.4±0.8
03	15	20	25	35	8.8±0.8	10.4±0.8



DM1-00P



DM1-01D

SSM SERIES

MINIATURE MICRO SWITCHES, DETECTOR SWITCHES UP TO 30VDC
SPDT, ALL PBT BODY AND PCB TERMINALS



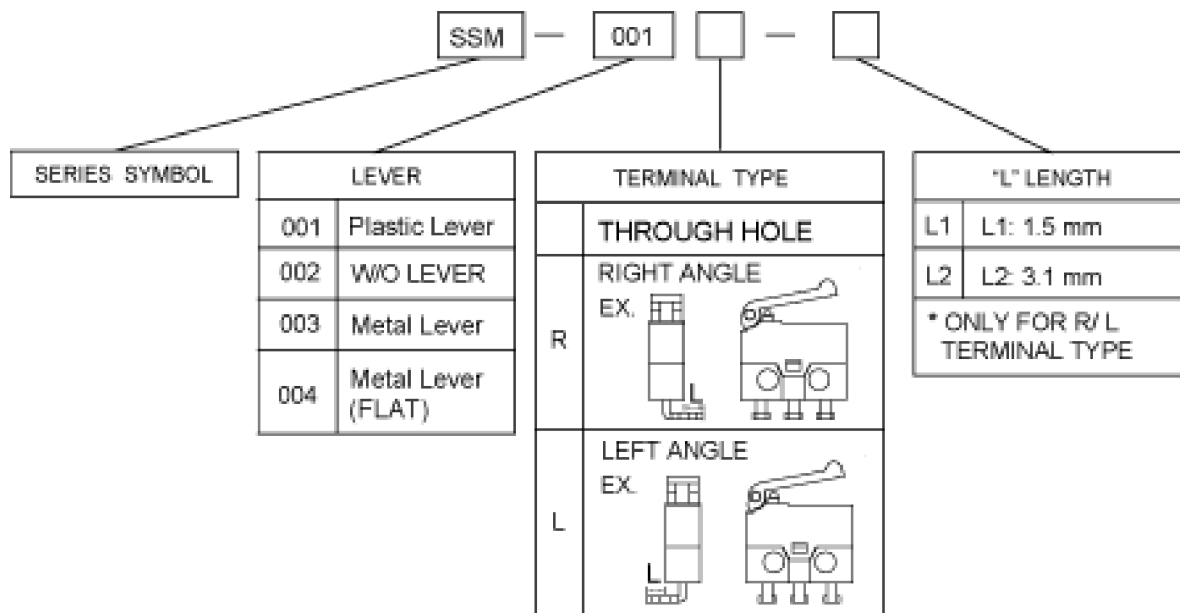
i@



#Up to 250K life cycles upon request

- Rating: 30VDC, 500mA
- Initial contact resistance : 100m Ohm max.
- Insulation resistance : 100M min, at 250VDC
- Dielectric strength : 500 VAC for 1 minute
- Temperature range : -15 to +70 degrees in celsius
- Operating force: 50~120gf maximum
- Switch life: 100,000 cycles minimum
- Housing: PBT
- Cover: PBT
- Lever: PBT
- Actuator: POM
- Contacts: Silver alloy
- Terminals: Brass, silver plated

How to Order

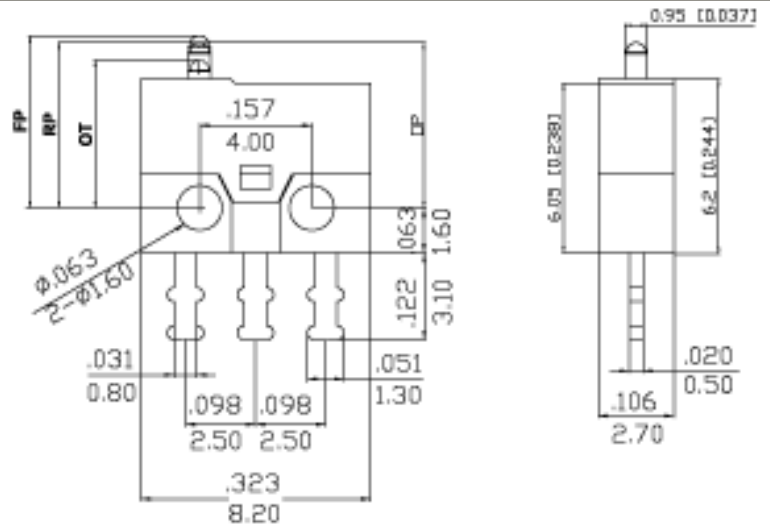
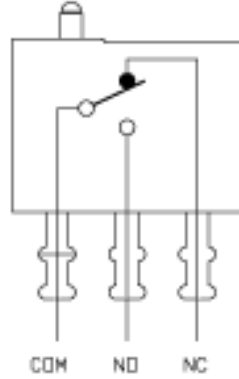


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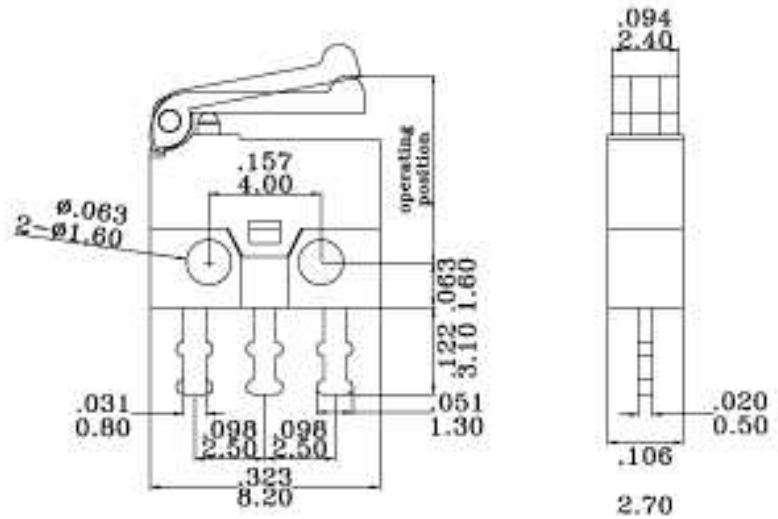
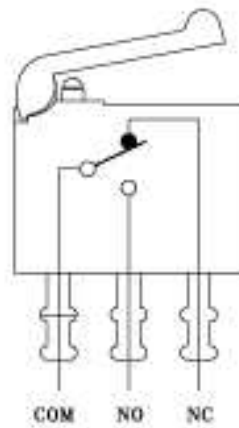


SSM-002

FP: 6.2 mm(MAX)
 DP: 5.6 ± 0.15mm
 RP: 5.75 (MAX)
 DT: 5.45 (MIN)

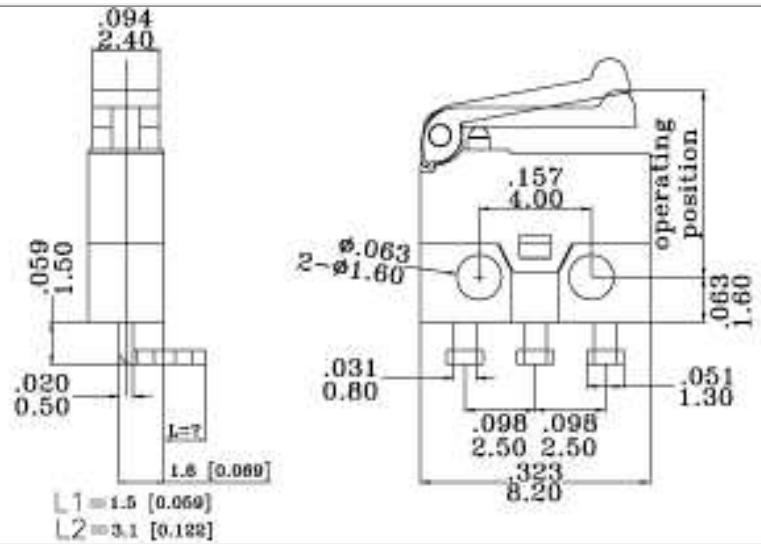
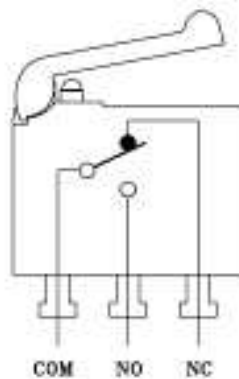


SSM-001



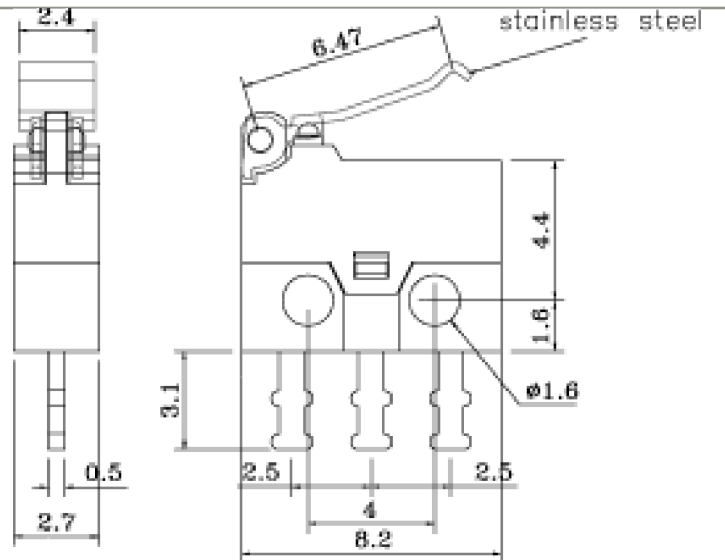
(With Lever & Right-Angled
 Terminals)

SSM-001R-L1/L2

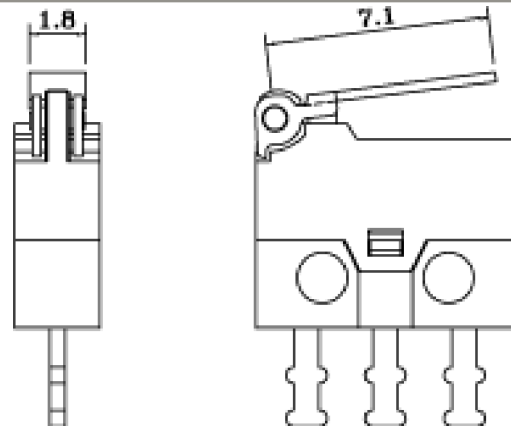




SSM-003



SSM-004



DS-01, TPS SERIES

MINIATURE DETECTOR SWITCHES UP TO 5VDC, 1mA

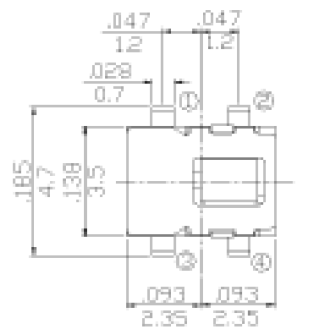


- Rating: 5VDC, 1mA
- Operating Temperature: -10 to +70 degrees in celsius.
- Operating Force: 35gf max.
- Contact Resistance : 500m Ohm max.

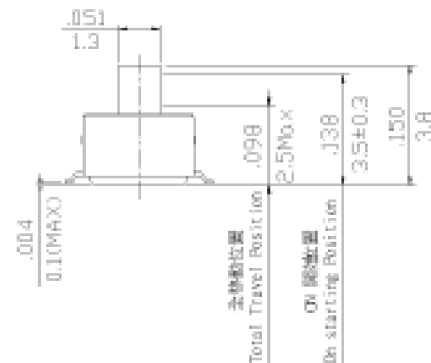
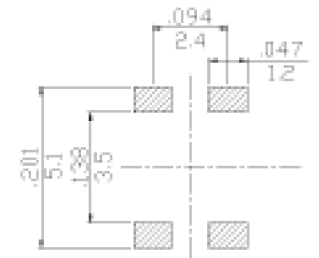
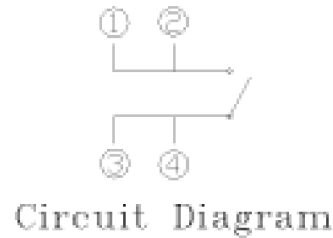
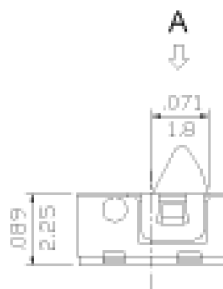
- Insulation Resistance : 50M Ohm (at DC 250V) min
- Dielectric Resistance : For 1 minute (AC 250V)
- Mechanical Life: 100,000 cycles min
- DS-01 2,800 pcs per reel package.
- TPS-M 2,000 pcs per reel package.
- TPS-N 3,000 pcs per reel package.



DS-01



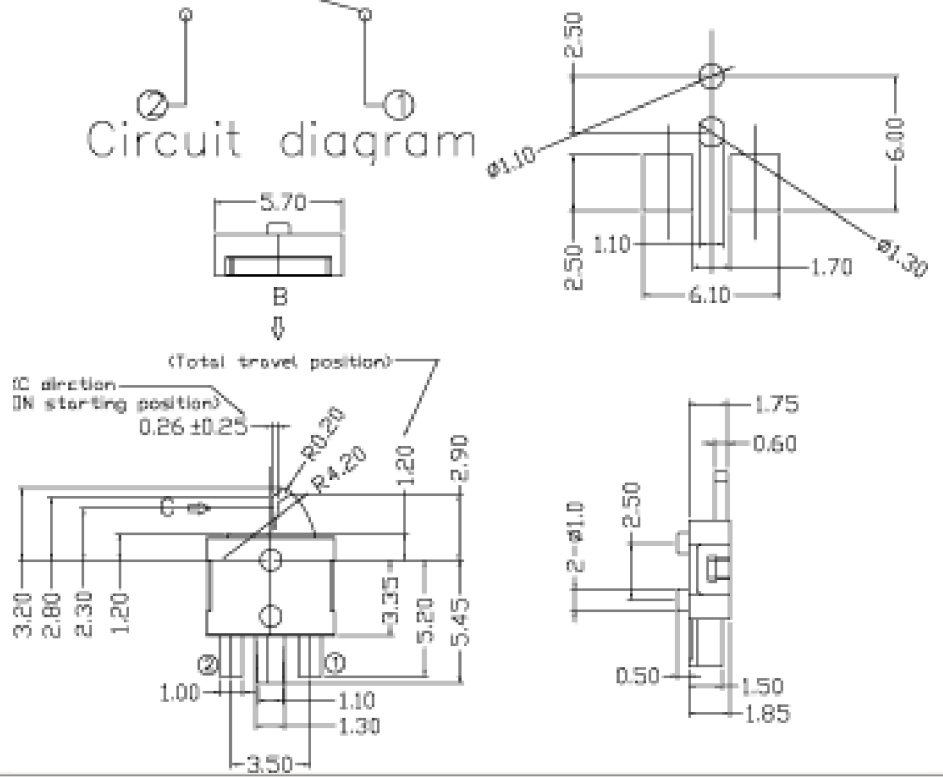
Operating direction





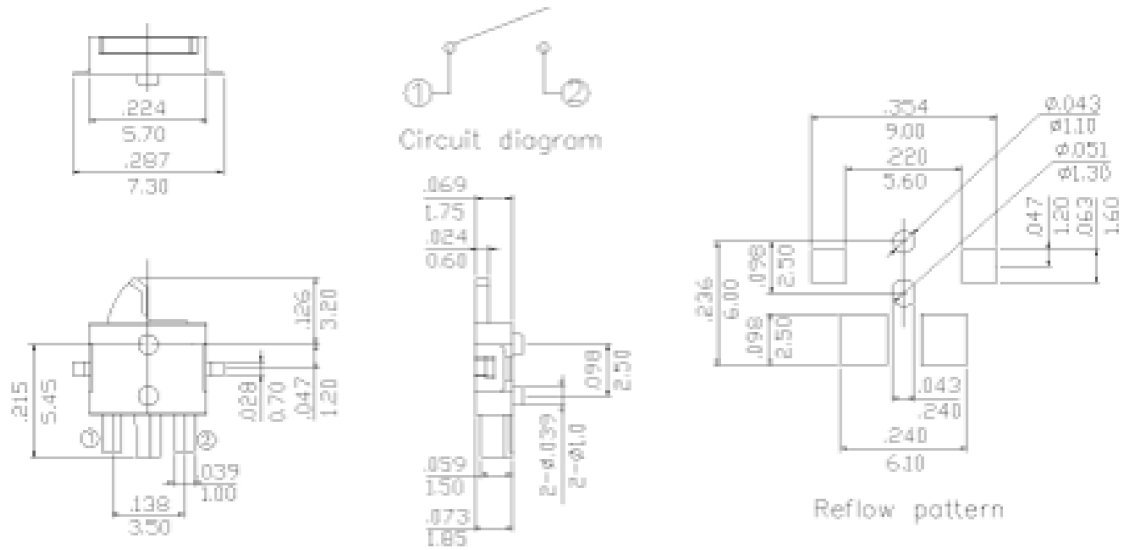
TPS-12NTL

Circuit diagram

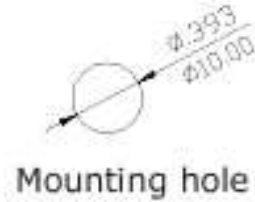


TPS-12MTR

Circuit diagram



CS20-5220 & CS50 PULL CHAIN SWITCH UP TO 6A 125VAC



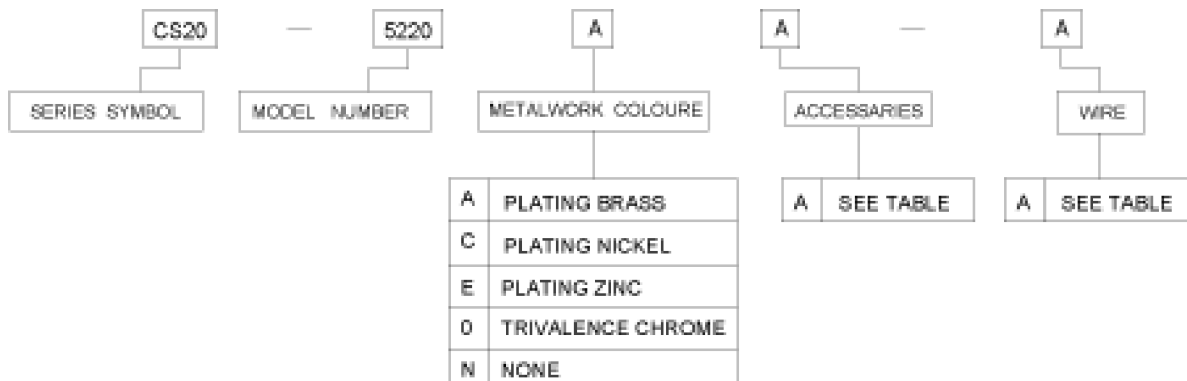
#2 or 4 positioned pull chain switches for lamp industries; L-rating for tungsten-filament testing



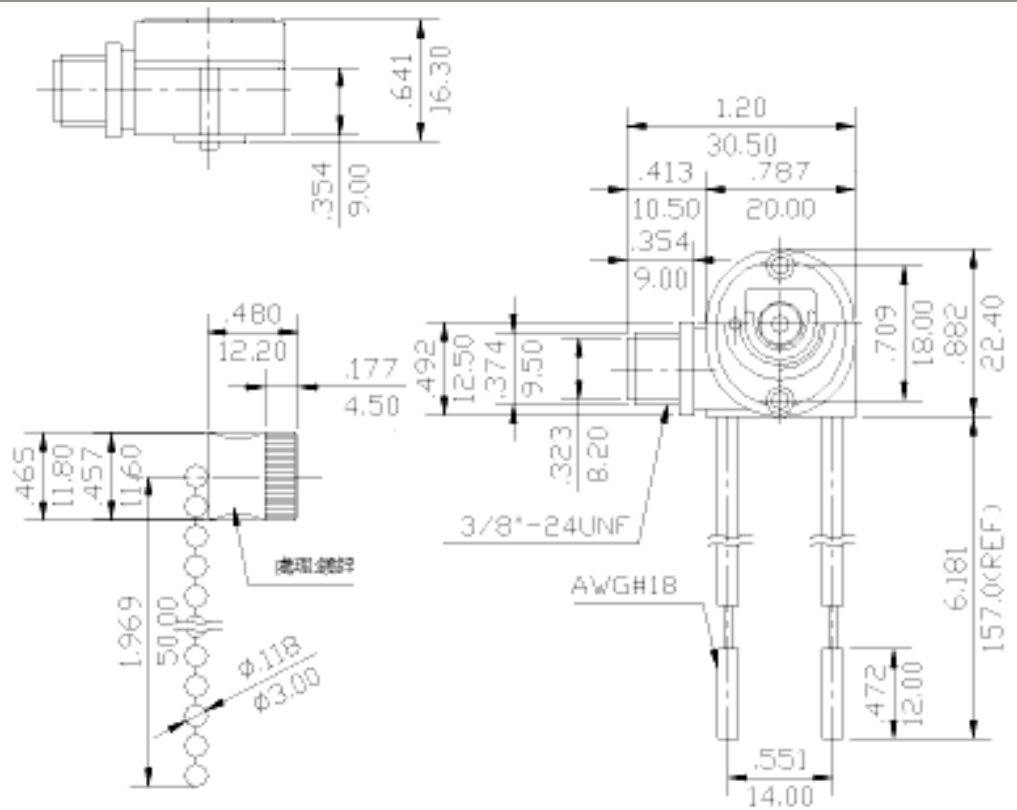
- CS20-5220 Rating : 6A 125VAC, 3A 250VAC 1A 125VL (UL)
- CS20-5220A Rating: 3A 125VAC, 1.5A 250VAC, 3A 125VL (UL)
- CS50-C Rating:6A 125VAC, 3A 250VAC 3A 125VL (UL,CUL)
- CS50-R Rating: 3A 125VAC, 1.5A 250VAC, 3A 125VL (UL)
- Contact resistance : 50m ohm initial (max.)
- Insulation resistance :500VDC 100M ohm(min.)
- Dielectric strength : 1,000 VAC for 1 minute
- Operation force : 400 plus/minus 200 gram
- Life cycle : 6,000 cycles
- Temperature range : 0 to + 65 in Celsius
- Base : Nylon 66 UL94V-2
- Cover : Nylon 66 black, or transparent PC UL94V2
- Base : Phenolic
- Spring : Piano wire
- Contact : Phosphor bronze
- Rivet : Aluminum
- Wire : 18 Awg, length customized
- Bell mouth : Aluminum knurled
- Nut : Aluminum
- Chain : Steel
- Metal finish : brass or nickel

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How order : CS20 SERIES PUSH BUTTON SWITCHES NUMBER

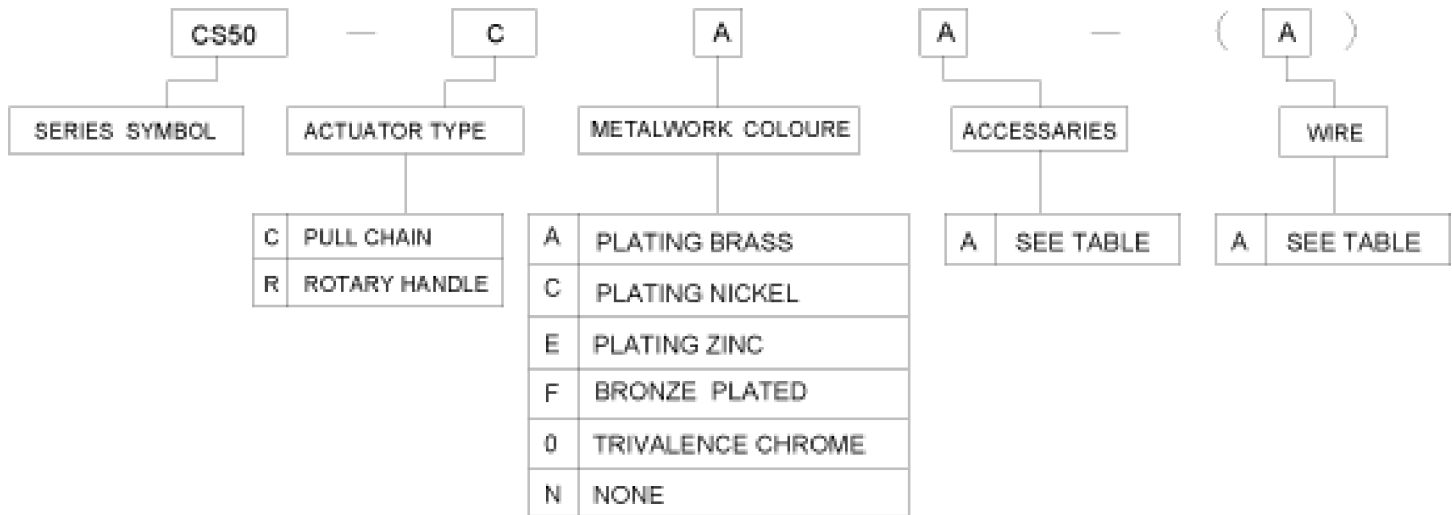


NOTE: The choosing of "O" of METALWORK COLOURE is complied to ROHS compliant



CS20-5220, ON-OFF

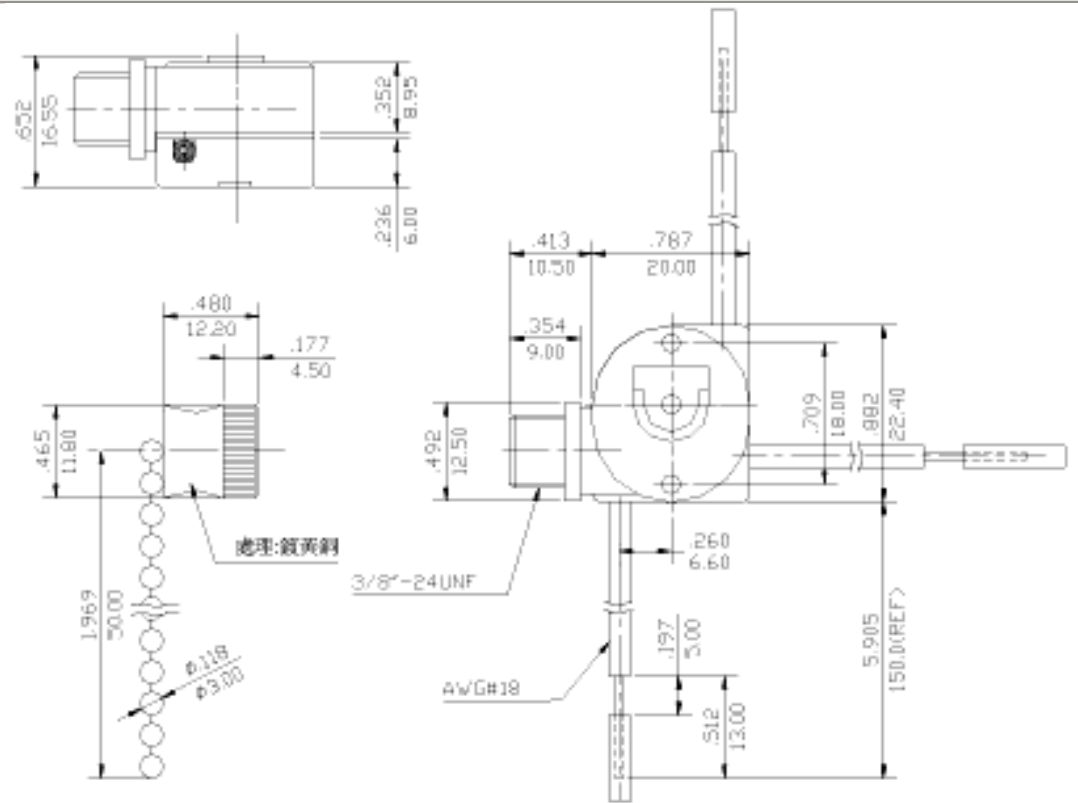
How order :CS50-C SERIES PUSH BUTTON SWITCHES NUMBER











CS50-C, OFF-ON-ON-ON

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••		••••	••
RS		••••	2 ••••••••, ••••
CS50-C-R		••••	3 ••••••••, , ••••
RS5		PCB	••••, •• 130mA 150V
SR26		••••	••••, •• 0.3A/ 125V
KNOB		••••	••••••; ••: ABS/•••
RM, RV, RH		PCB	10, 16 ••••••, 4X1, 3X3, 3X2 ••••

RS-SERIES

Two position rotary switches up to 6A 125VAC, wire built-in



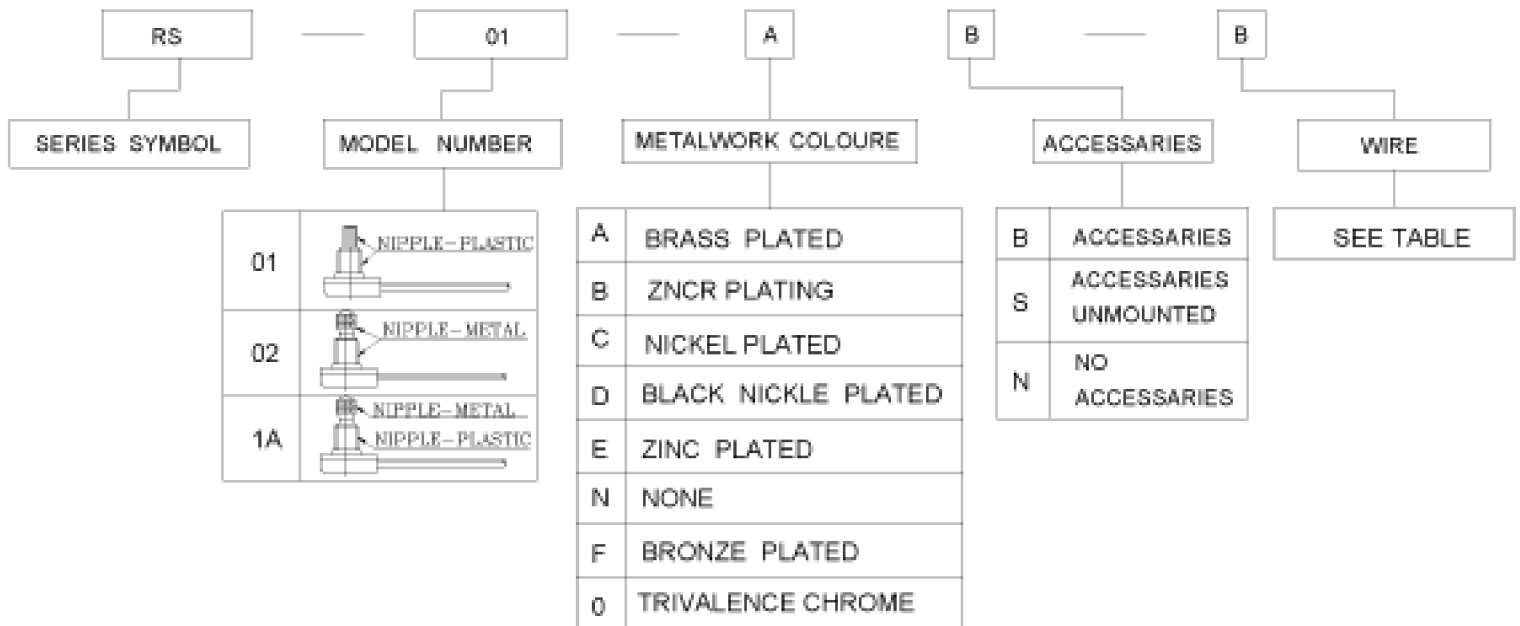
RS-02

- Rating : 6A 125VAC, 3A 250VAC 1A 125VT(UL)
- Contact resistance : 20m ohm initial (max.)
- Insulation resistance :500VDC 100M ohm (min.)
- Dielectric strength : 1,000 VAC for 1 minute
- Operation force : 400 200 gram
- Life cycle : 6,000 cycles
- Temperature range : 0 to + 65
- Switching function : on-off
- Base : Phenolic
- Cylinder : Nylon 66 UL94V2 or steel
- Actuator : Nylon 66 UL94V2/steel
- Spring : Steel wire
- Roller : Urea
- Contact : Phosphor bronze
- Roller : Steel
- Moving contact : Copper
- Rivet : Aluminum
- Wire : Awg-18

i@

i@

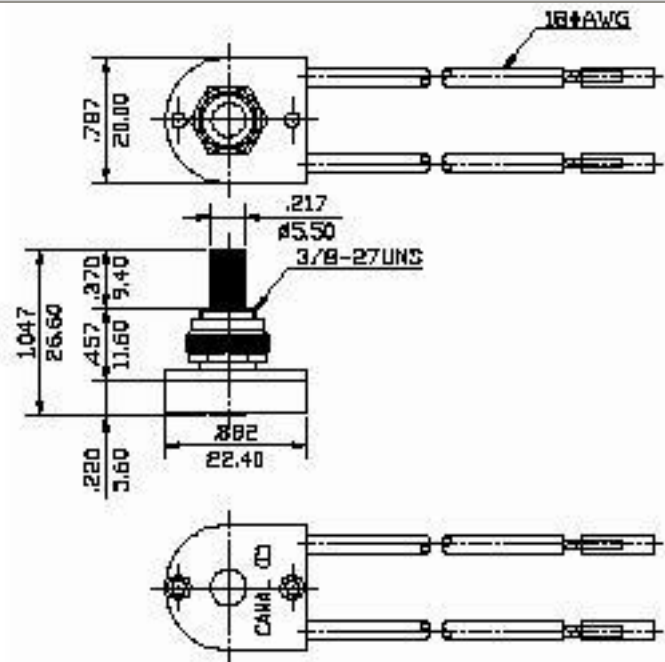
How to order



NOTE: The choosing of "B" of METALWORK COLOURE is not complied to ROHS compliant



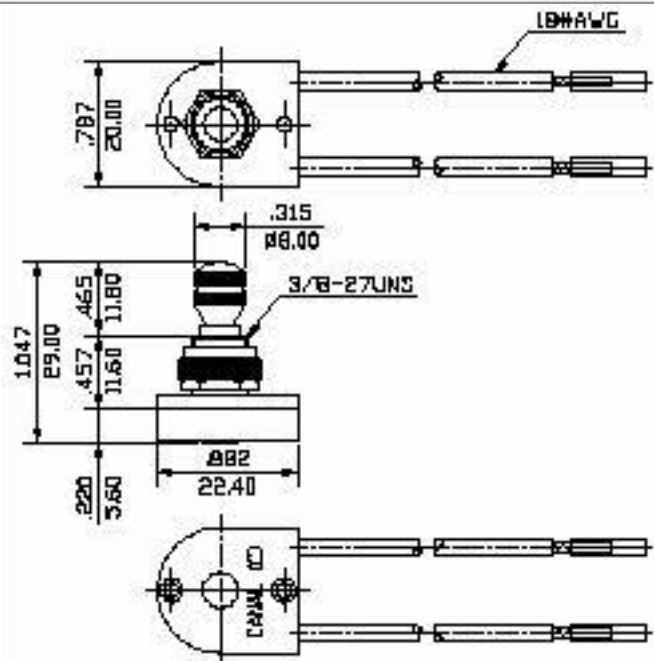
RS-01



RS-01A, plastic cylinder

RS-02, metal cylinder

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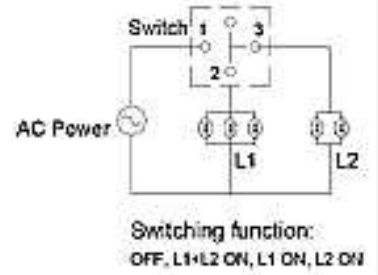
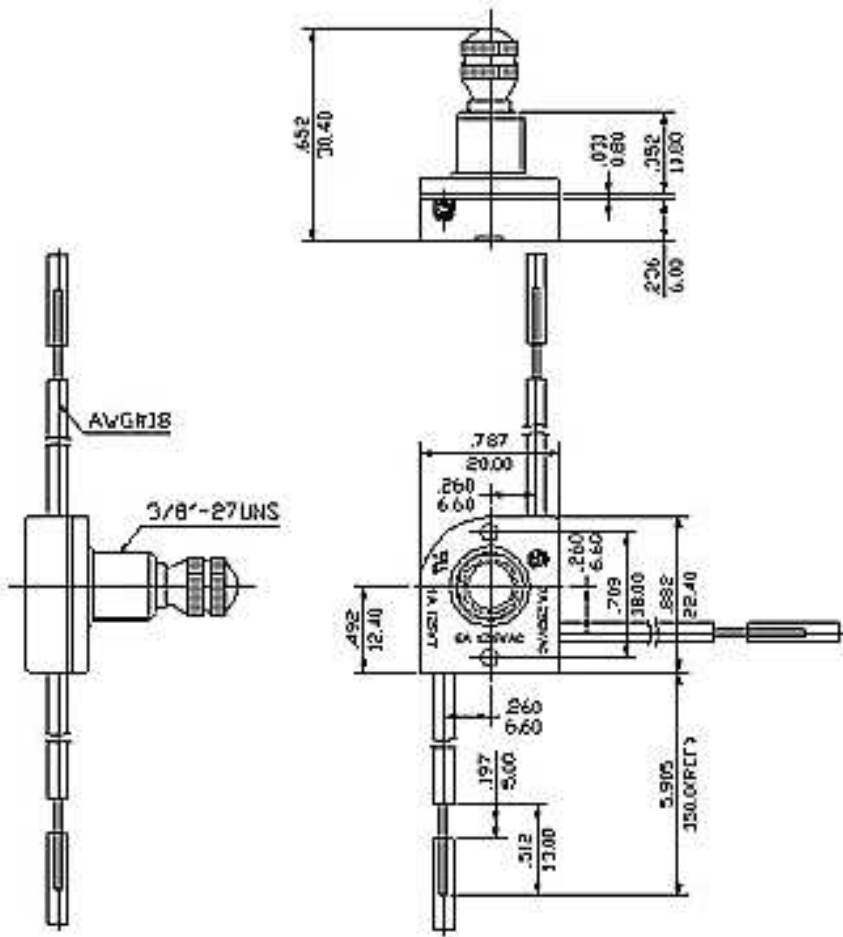


CS50-R SERIES

ROTARY SWITCH UP TO 6A 125VAC APPLIED FOR LAMP INDUSTRY



- Rating: 6A 125VAC, 3A 250VAC 3A 125VL (UL,CUL)
- Contact resistance : 20m ohm initial (max.)
- Insulation resistance :500VDC 100M ohm(min.)
- Dielectric strength : 1,000 VAC for 1 minute
- Life cycle : 6,000 cycles
- Temperature range : 0 to + 65 in Celsius
- Nut : Brass
- Knurled Nut : Zine alloy
- Hex Nut : Steel
- Separator : Pressboard
- Leads : UL1015 18AWG
- Base : Phenolic
- Movable Contact : Copper alloy
- Rotor A : Urea
- Contact Arm : Copper Alloy
- Rivet : Aluminum
- Cover : Zine alloy
- Rotor B: Steel
- Spring : Piano wire
- Axle : Nylon66 94V-2 min



RS5 SERIES

ROTARY SWITCHES UP TO 130mA 150VDC/AC

Optional actuator and PCB terminal

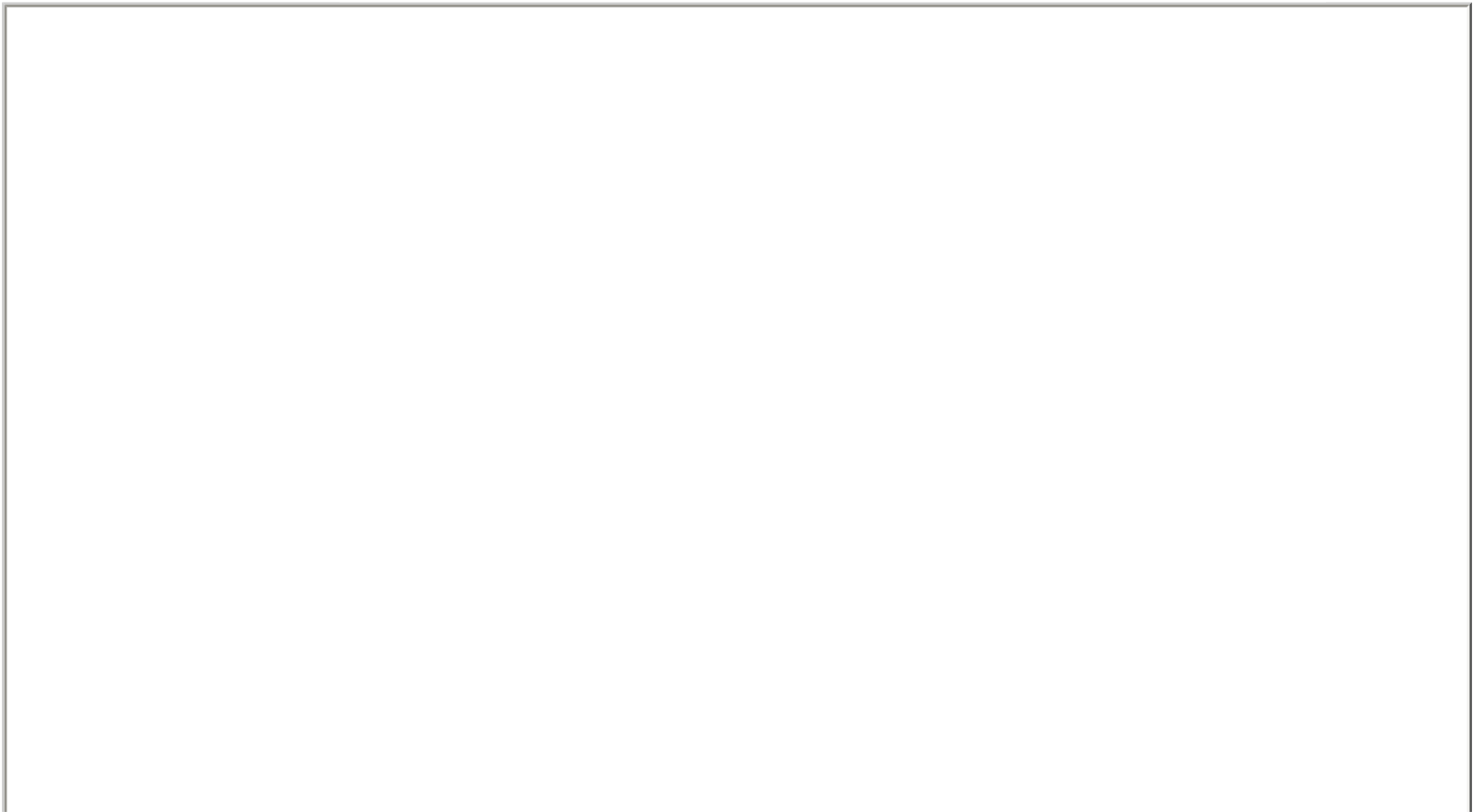
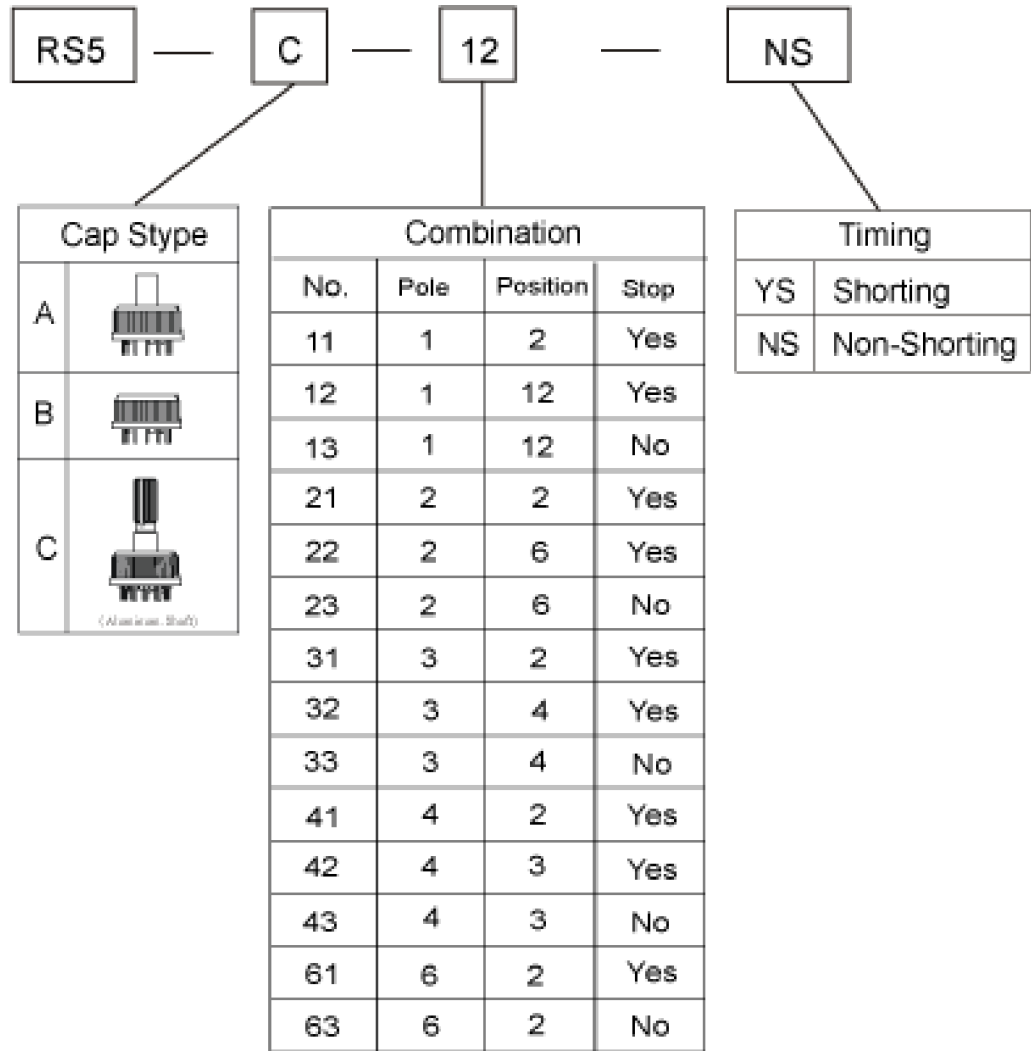


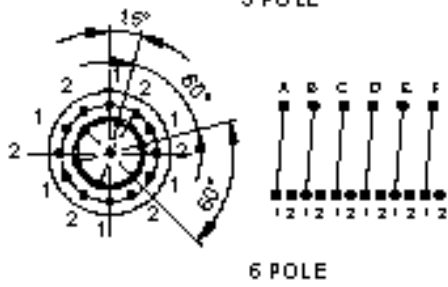
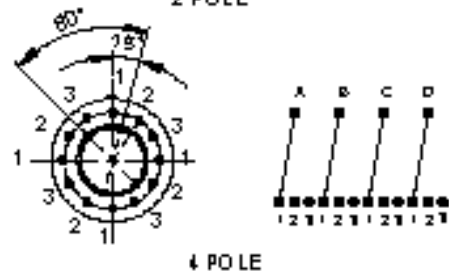
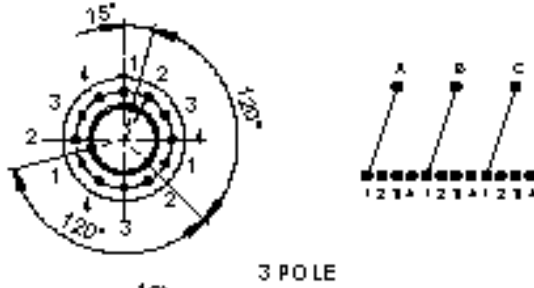
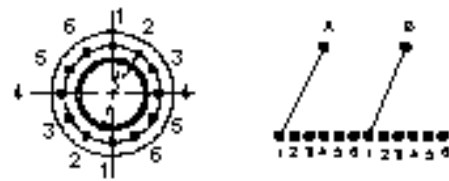
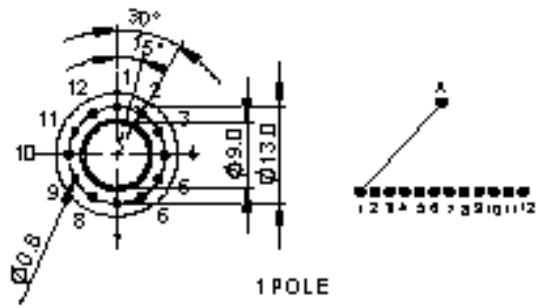
- Load Rating: 130mA 150VDC/AC
- Contact Resistance: 25 m Ω Max (initial)
- Insulation Resistance: DC 500V 100M Ω Min.
- Dielectric Strength: 1000VAC 1 Minute
- Mechanical Life: 20000 cycles Min.
- Electrical Life: 15000 cycles Min.
- Operating Torque: 1kgf-cm (Max)
- Operating & Storage Temperature: 0 $^{\circ}$ C ~ + 60 $^{\circ}$ C
- Soldering spec: 255 $^{\circ}$ C \pm 5 $^{\circ}$ C Within 3 sec
- Rotary Angle: 30 $^{\circ}$
- Cap/ Case/ Movement: PA
- Moving Contact: PBS+Ag
- Spring: SUS

i@

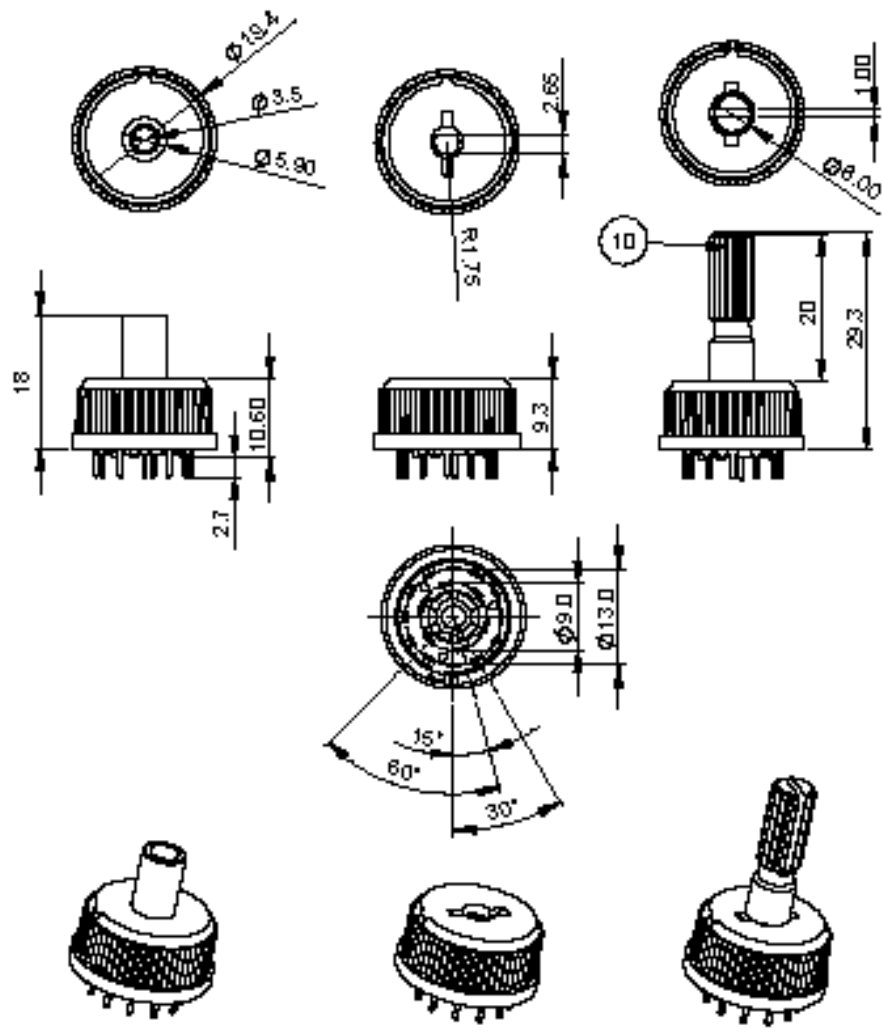
How to order:

i@





PCB LAYOUT & CIRCUIT



RS5-A

RS5-B

RS5-C

SR26 SERIES

ROTARY SWITCH UP TO 0.3A/ 125V

Optional actuator, 1~12 positions



i@

Electrical Rating

- Load Rating: 125VAC 0.3A; DC30V/1A
- Contact Resistance: $\leq 25\text{m}\Omega$ [Initial

$\leq 50\text{m}\Omega$ [after 10000 cycles

- Insulation Resistance: DC 500V 100M Ω [MIN.
- Dielectric Strength: AC 500V 1 minute.
- Timing: Shorting or Non-shorting

Environmental

- Temperature: -10C ~ $+60\text{C}$
- Humidity: RH 30% ~ 90%

Mechanical Characteristics

- Operation force: 600 g \sim 300 g
- Soldering: 300 C @ 3 sec.
- Life: 10,000 cycles.

Remark: There are silicon grease in the contactors, Super-sonic cleaning are prohibited.

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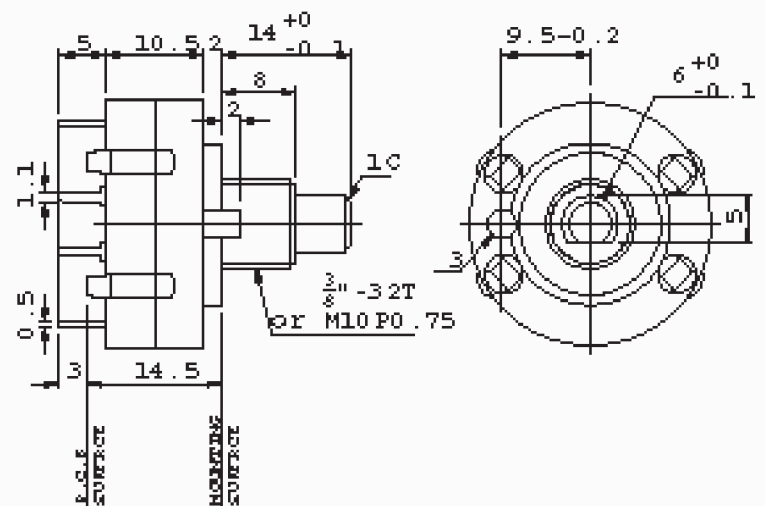
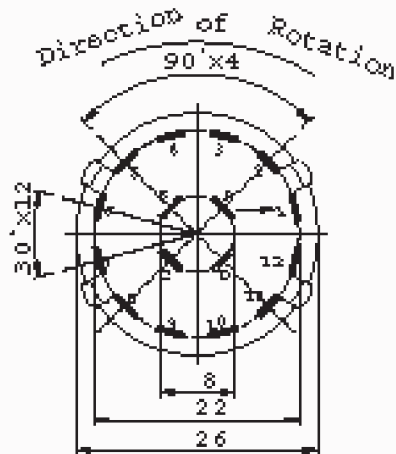
How to Order:

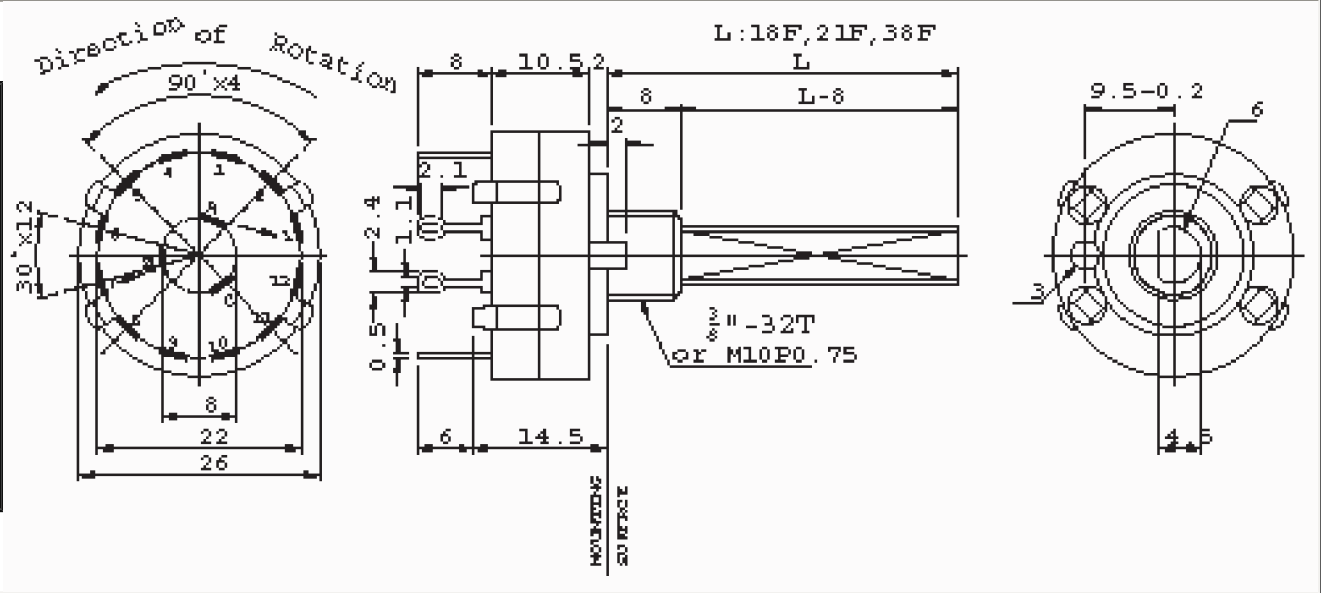
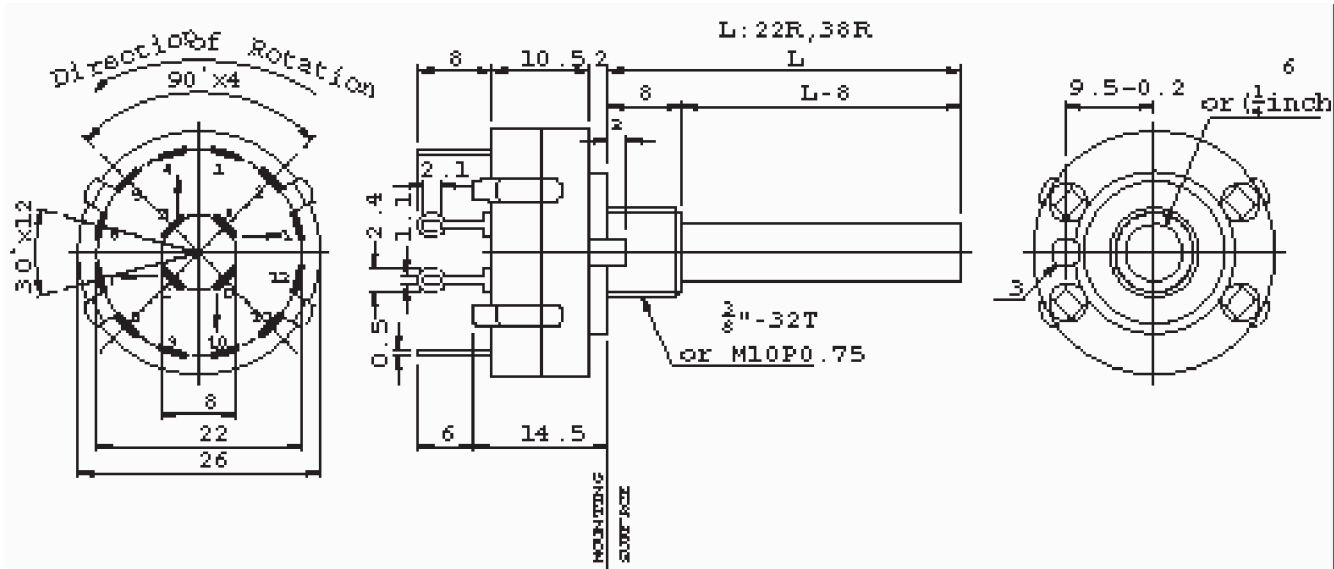
SR26	—	NS	—	1	—	1	—	12		P		NS
SERIES SYMBOL	POSITION ANGLE	TIMING	DECK	POLE	POSITION	TERMINAL	ROTATION					
	30° (STD.)	SHORTING	1	1 2 3 4	2-12	SOLDER TERMINAL	WITH STOP					
	B 60° (8 POLES max.)	NS NON SHORTING				P PC TERMINAL	NS NONE STOP					

(M10) 22 F - D6.35

SCREW	ACTUATOR HEIGHT	ACTUATOR TYPE	ACTUATOR DIA
3/8" -32	18 (mm)	F FLAT	∅ 6*4.5 mm
M10 M10 P0.75	22 (mm)	R ROUND (22R,38R only)	∅ 6.35*5 mm
	38 (mm)		
	* 14 (mm) (only ∅ 6*5mm actuator dia.)		

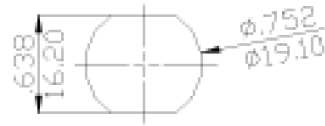
Ex. SR26-NS-1-1-12(M10)38R-D6.35

SR26NS-1-2-6P-
M10-14FSR26NS-1-4-3-
38R



CAM LEVER KNOB

Rotary Lever for Heavy Industry Control; Insert-Molding with Steel

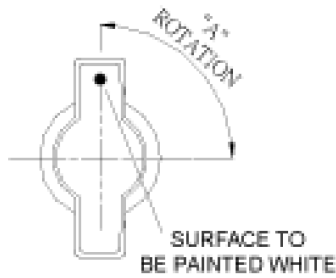


RECOMMENDED
PANEL CUTOUT

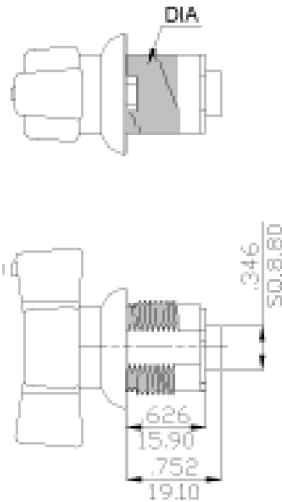
- Mechanical switching only
- Mechanical Life: 50K cycles
- Actuator and Cover: ABS 94V-0
- Gasket: Nickel plated steel
- Nut: Zinc plated steel
- Metal cam: Zinc plated steel
- Metal ring: Zinc plated steel
- Spring: Spring wire
- Steel ball: Stainless steel
- Metal body: Zinc alloy
- Actuator: ABS 94V-2 min
- Nut: Steel plated trivalence chrome



KNOB-C001

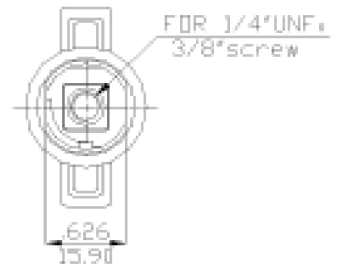


NOTES: BULK PACK:HEX NUTS AND INT.Tooth WASHERS



DIA

3/4-24 UNS-2A THD.
MAJ. DIA. -.746/.739
PIT. DIA. -.7217/.712
MIN. DIA. -.697/.690
THD. LING. =7/16

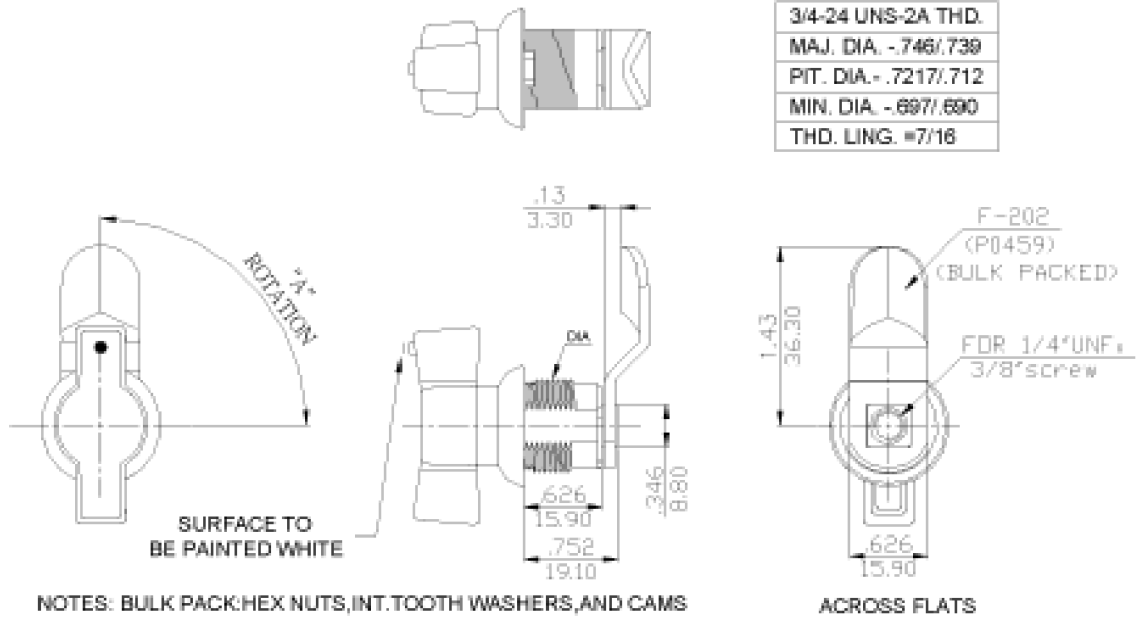


ACROSS FLATS

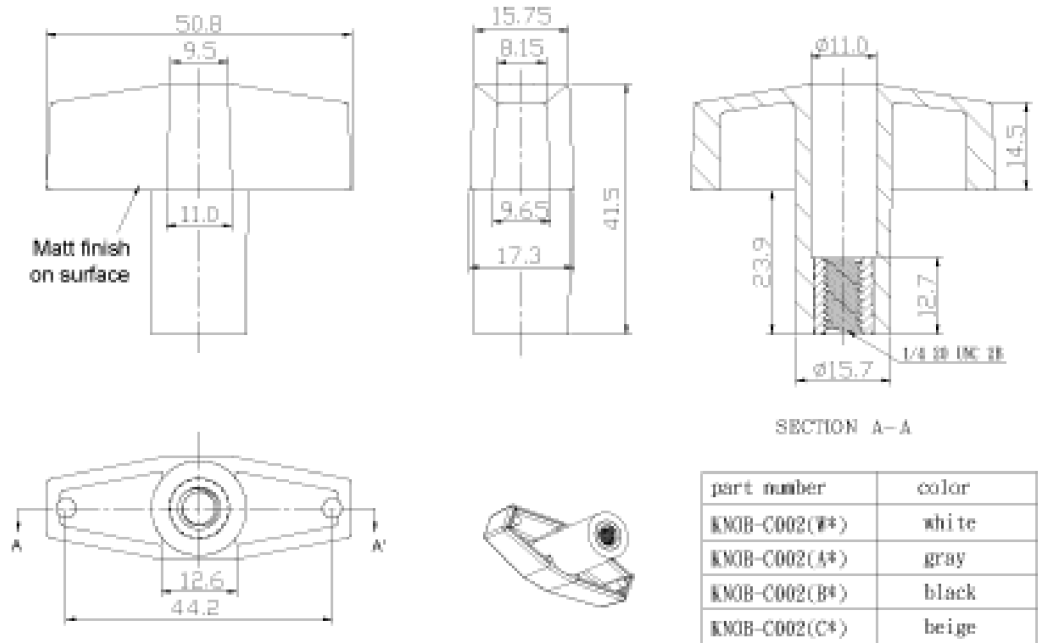
KNOB



KNOB-C001A



KNOB-C002



ROTARY DIP SWITCHES, RM, RV, RH-SERIES

10, 16 STEPS, 4X1, 3X3, 3X2 terminals, up to 25mA 24VDC

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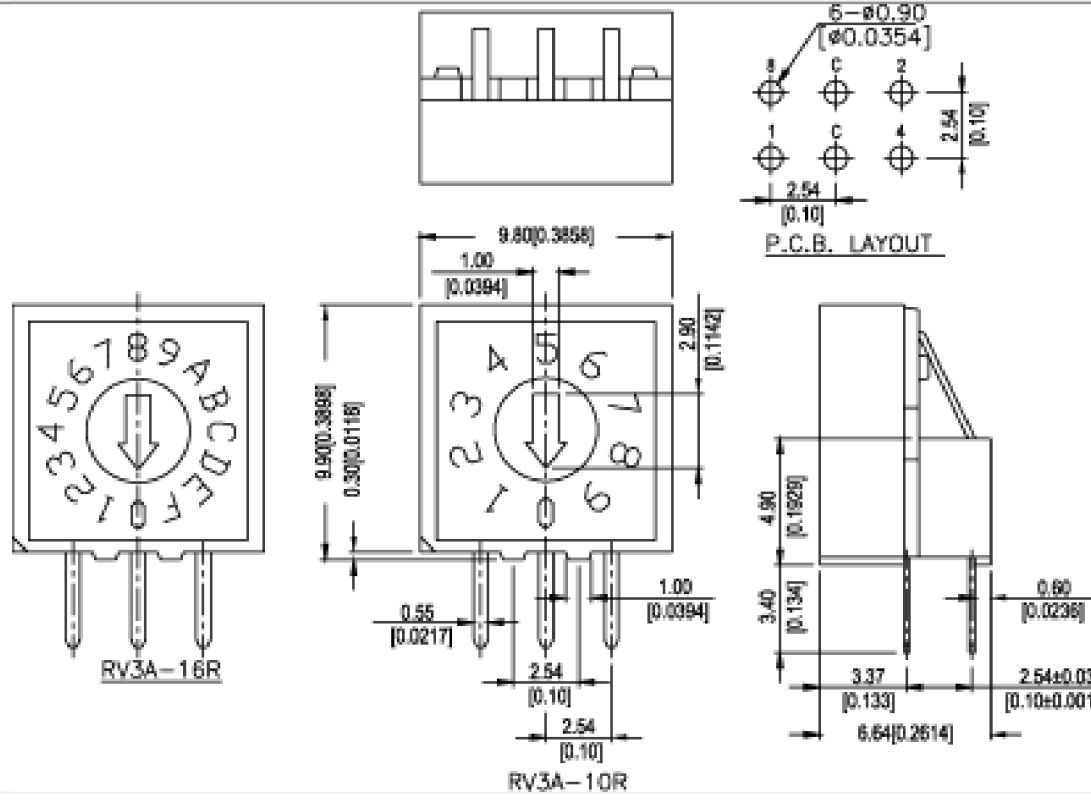
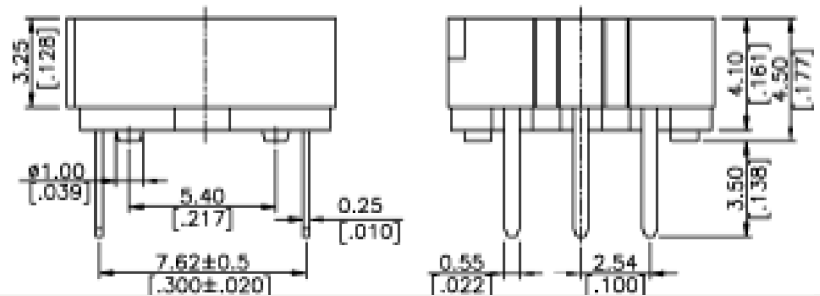
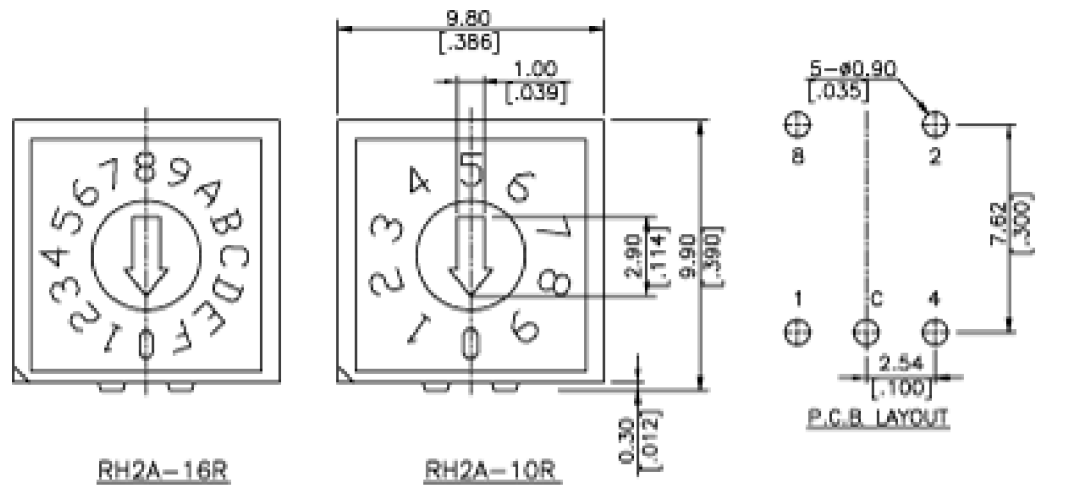


- Mechanical Life: 20,000 steps, 200m Ohm max.
- Operational Force: 200gf
- Operating Temp.: -40~85 degrees in Celsius
- Non-switching rating : 100mA,50VDC.
- Switching rating : 25mA, 24VDC.
- Contact resistance : 100m Ohm max. at initial.
- Insulation resistance : 100M ohm min at 250VDC
- Dielectric strength : 250VAC/1minute.
- Base&Cover : UL94V-0 Nylon, black color
- Actuator : UL94V-0 LCP Thermoplastic, white color
- Contact : Copper alloy with gold plated over nickel
- Terminals : Brass with gold plated

How to Order:

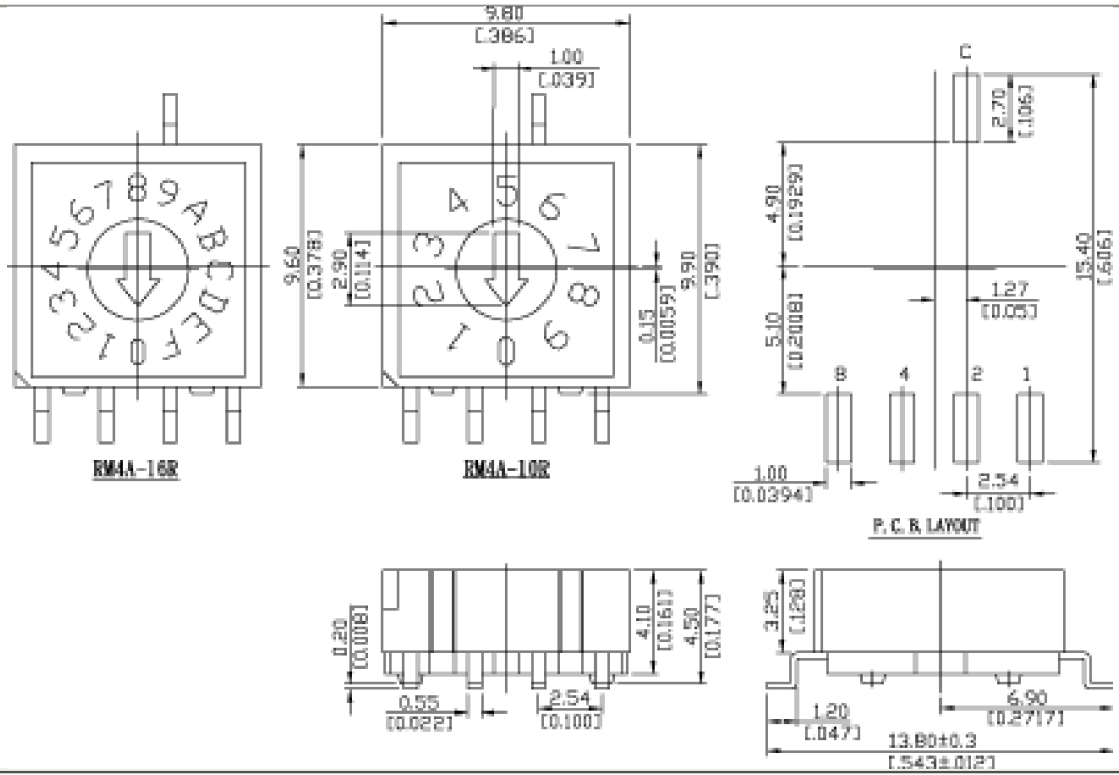
R	M	4	A	—	10	R	—	T/R
SERIES SYMBOL	TERMINAL TYPE	TERMINALS NO	ACTUATOR TYPE	TERMINAL	NUMBER OF STEPS	REAL CODES	PACKAGE STYLE	
	H THROUGH HOLE	4 4X1	RECESSED	A GOLD PLATED	10 10 STEPS	R	TUBE	
	V RIGHT ANGLE	3 3X3	H HIGHT ACTUATOR	OVER NICKEL	16 16 STEPS		T/R TAPE & REEL (FOR RM ONLY)	
	M S.M.T	2 3X2	M 3.2mm					

RH2A-10/16R



RV3A-10/16R

RM4A-10/16R





Model		Mounting	Features
DHN		SMT, 4, 6, 8, 10 poles , 1.27mm...
EM & EI & ES		SMT/DIP, SMT & , .. 25mA, 24VDC
RS & RSR		DIP, 2.54mm ... , ...12 poles
RP & RPL		DIP, 2.54mm ... , ... 12 poles
RM, RV, RH		PCB	10, 16..... , 4X1, 3X3, 3X2.....
DA		PCB; .. 25mA, 24VDC
TI		PCB/SMT	...Low Profile , ...2.54mm
SIP		PCB;PCB.. , ..10mA, 5VDC
EPI & EPM		PCB/SMT; SMT & , .. 25mA, 24VDC

•

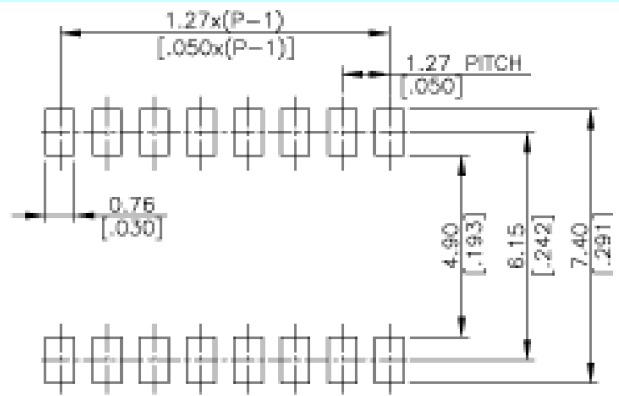
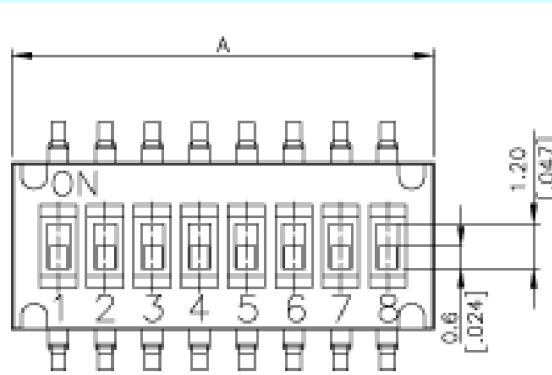
DHNF/ DHN SERIES DIP SWITCHES*Mini-slim SMT, 2, 4, 6, 8, 10 poles , half pitch 1.27mm; up to 25mA, 24VDC*

- Non-switching rating : 100mA,50VDC.
- Switching rating : 25mA, 24VDC.
- Electrical life : 1,000 operation cycles per switch 24VDC, 25mA
- Contact resistance : 100m ohm max. initial.
- Insulation resistance : 100M ohm min (at 500VDC)
- Dielectric strength : 300VAC/1minute.
- Circuit : single throw, with 2, 4, 6, 8 & 10positons
- Temperature range : -40 to + 85 degrees in Celsius
- Base&Cover : High-Temp. Thermoplastic, black color
- Actuators : Thermoplastic LCP, white color
- Contact : Phosphor Bronze, gold plated.
- Terminals : Brass, gold plated
- Top Sealed tape available, KAPTON
- T/R package: DHNF-2500 PCs/ Reel
DHF- 4000PCs/Reel

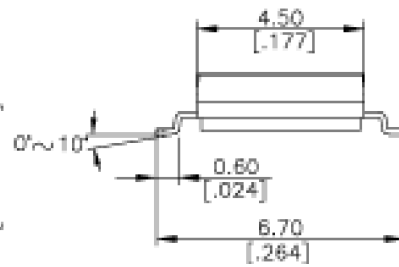
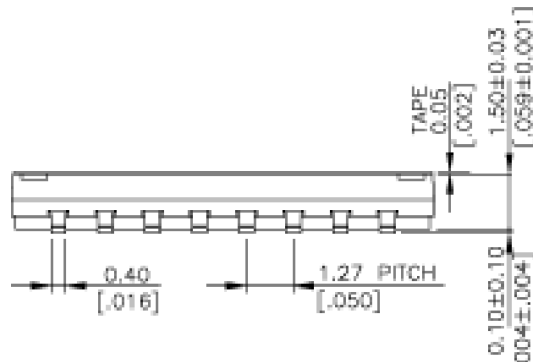
How to order

DHNF	—	06	F	—	T	—	T/R
SERIES SYMBOL (LENGTH)		POSITIONS	POSITION		SEALED		PACKAGE
DHNF 8.1mm DHN 6.7mm		04 4 Positions 08 8 Positions 09 9 Positions 10 10 Positions	F OFF		REGULAR T TOP TAPE SEALED		TUBE T/R TAPE & REEL

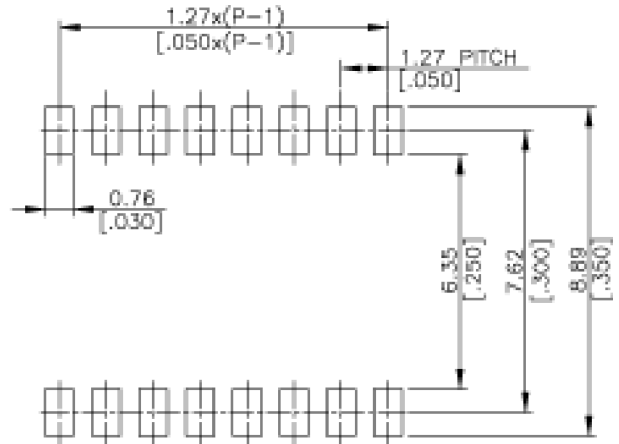
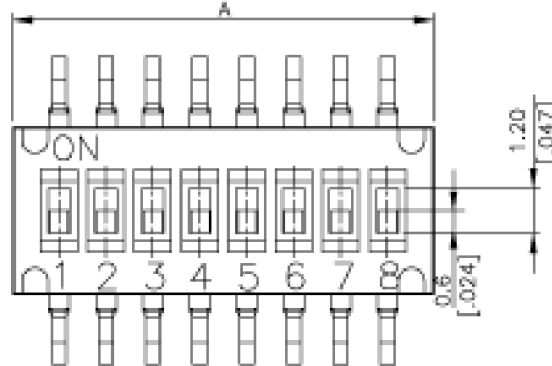
DHN
(NHDS substitute)



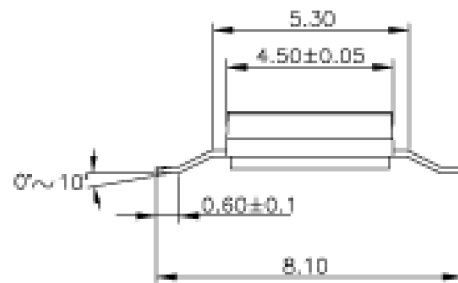
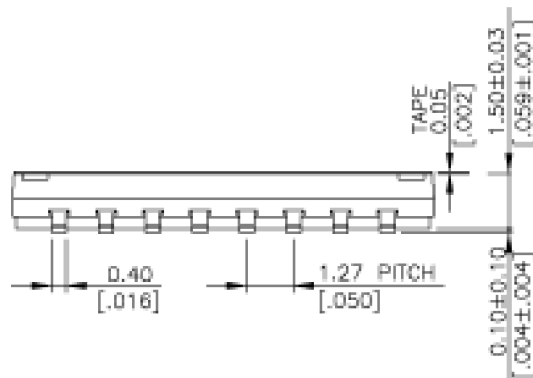
P.C.B LAYOUT



DHNF

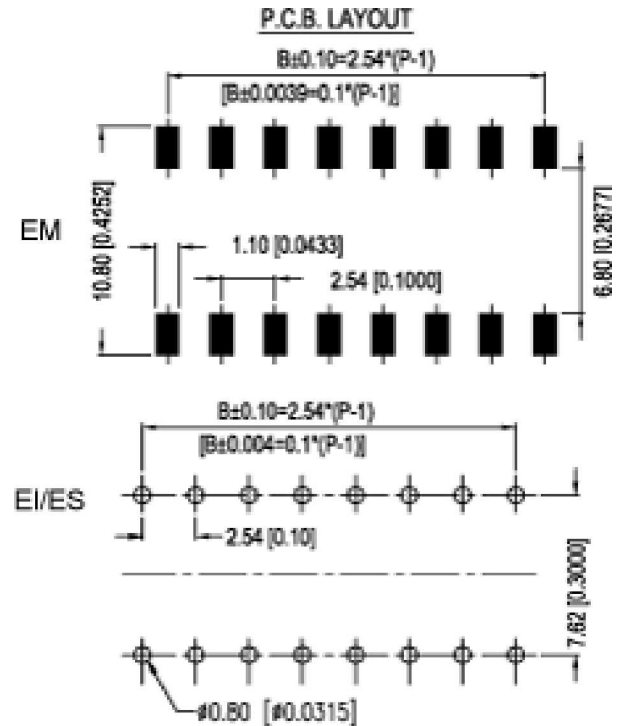
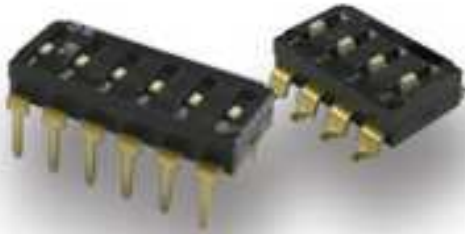


P. C. B LAYOUT



EM, EI, ES SERIES DIP SWITCHES

End Stackable, SMT & Through Hole type , up to 25mA, 24VDC



- Switching rating : 25mA, 24VDC
- Non-Switching: 100mA, 50VDC
- Contact resistance: 100m Ω max. at initial.
- Dielectric strength : 500VAC/1minute.
- Insulation resistance: 100M Ω min, at 500VDC
- Electrical life : 2000 operation cycles per switch 24VDC, 25mA
- Mechanical life: 2000 operations

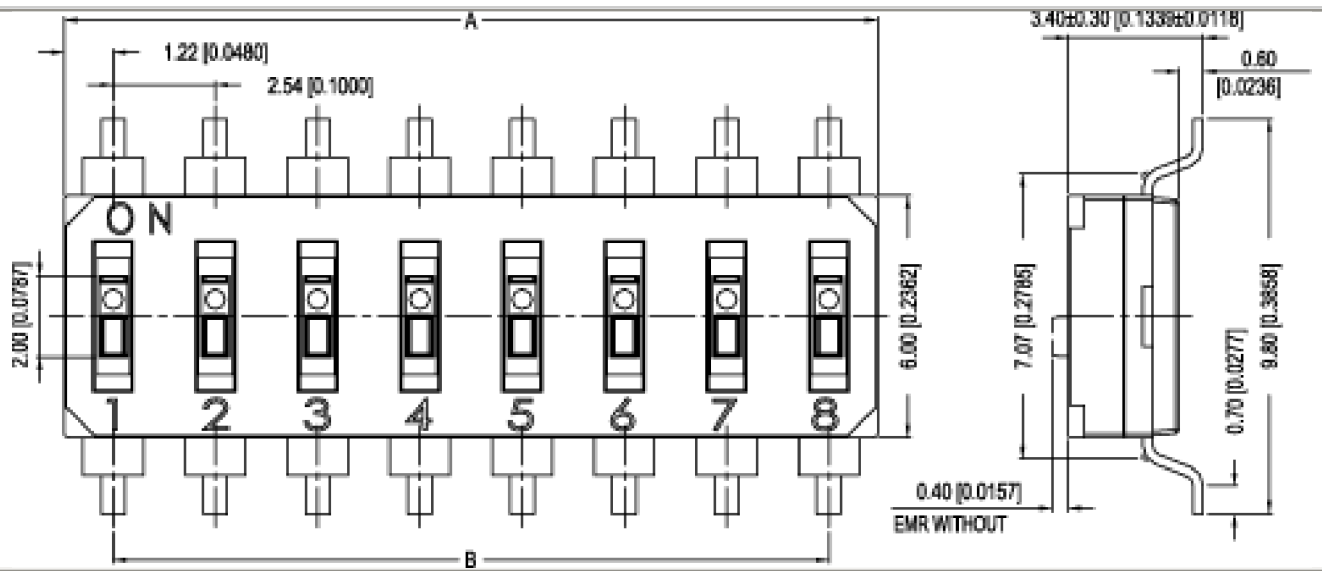
- Operation Temp.: -20 to + 85 ϕ J
- Storage Temp.: -40 to + 85 ϕ J
- Base & Cover: UL94V-0 Nylon High-Temp Thermoplastic, color black.
- Actuator: UL94V-0 LCP High-temp Thermoplastic. color white
- Contact: Alloy Cooper with gold plated
- Terminal: Brass with gold plated

i@

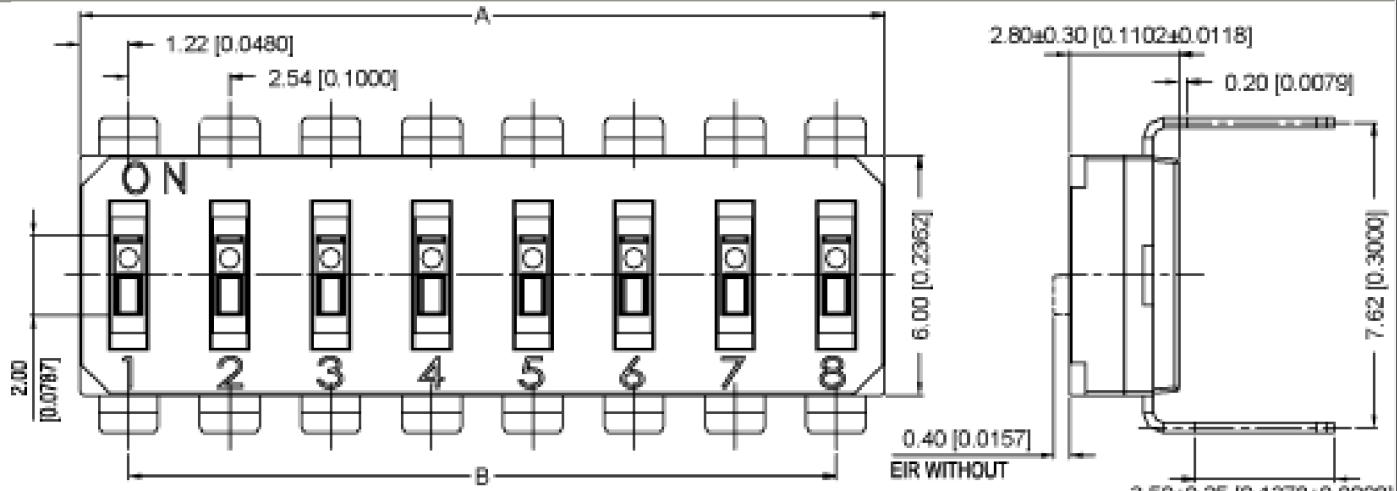
How to order

E	M	R	—	09	—	T/R
SERIES SYMBOL	MOUNTING	ACTUATOR		POSITION	SEALED	PACKAGE
	M SMT	Raised		01	Regular	Tube
	I Through hole Pitch 7.62 mm	R Recessed		02		
	S Through hole Pitch 8.5 mm			03	T Top tape sealed (Recessed type only)	T/R Tape & reel (EM type only)
				10		
				12		

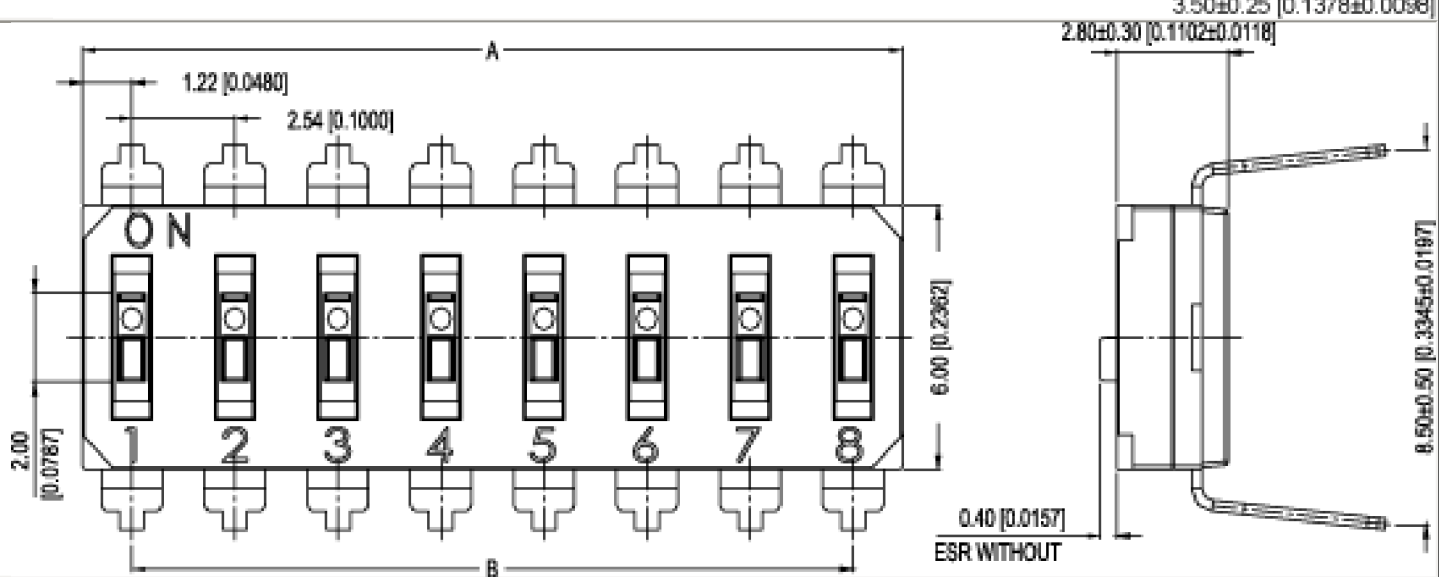
EM



EI



ES

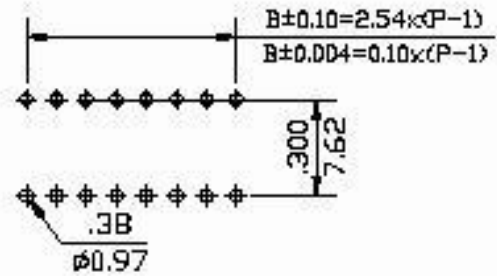


RS & RSR SERIES

Slide switches up to 25mA 24VDC, 2.54mm pitch, up to 12 poles, 2.54mm



P.C.B. LAYOUT



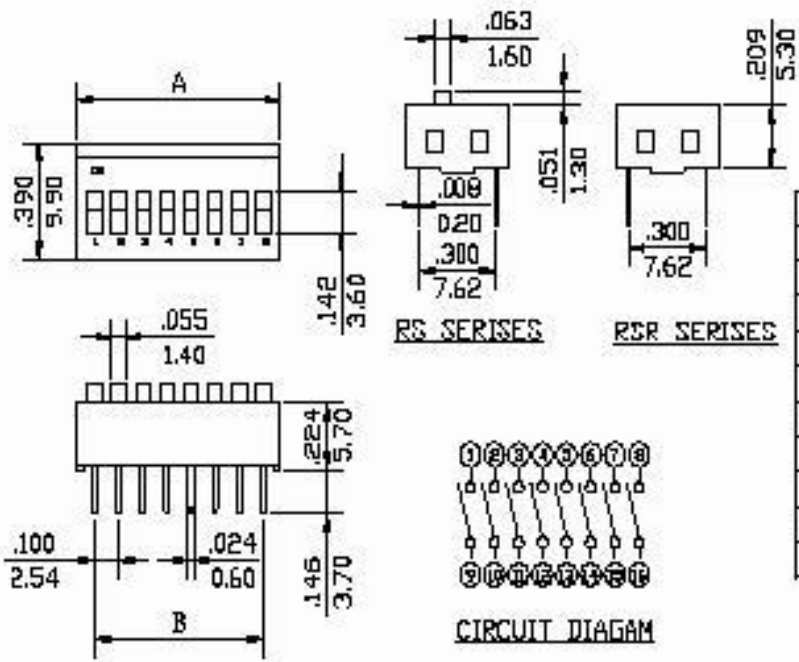
- Rating:: 25mA, 24VDC
- Contact resistance : 50m ohm max, at initial.
- Insulation resistance : 100M ohm min. at 500VDC.
- Dielectric strength : 500VAC/1minute.
- Circuit : single throw, with 2 to 10 & 12 positions
- Temperature range : -20 to + 85 degrees in Celsius

- Base : UL94V0, PBT plus glassfiber, black color
- Cover : UL94V0, PBT plus glassfiber, red, blue or black color
- Actuators : UL94V0, PBT plus glassfiber, white color
- Terminals&Contacts : Phosphor bronze, gold plating over nickel
- Top sealed tape available , Polyester film

How to order

RS	R	—	02	—	B	—	T
<p>SERIES SYMBOL</p>	<p>ACTUATOR</p> <p>RAISED</p> <p>R RECESSED</p>		<p>NUMBER OF POSITIONS</p> <p>01 07</p> <p>02 08</p> <p>03 09</p> <p>04 10</p> <p>05 12</p> <p>06</p>		<p>COVER COLOR</p> <p>B BLUE</p> <p>R RED</p> <p>K BLACK</p>		<p>SEAL</p> <p>REGULAR</p> <p>T TOP TAPE SEALED</p>

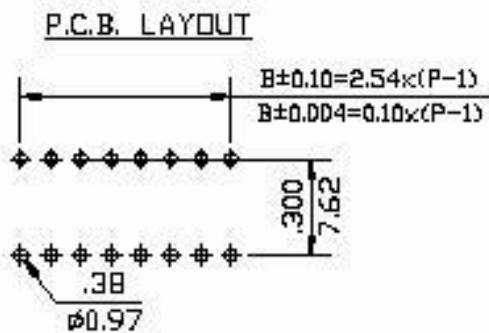
i@



Prod No.	No.ofPDS	DIM A	DIM B
RS/RSR-02	02	6.08(0.239)	2.54 (.100)
RS/RSR-03	03	8.62(0.339)	5.08 (.200)
RS/RSR-04	04	11.16(0.439)	7.62 (.300)
RS/RSR-05	05	13.70(0.539)	10.16 (.400)
RS/RSR-06	06	16.24(0.639)	12.70 (.500)
RS/RSR-07	07	18.78(0.739)	15.24 (.600)
RS/RSR-08	08	21.32(0.839)	17.78 (.700)
RS/RSR-09	09	23.86(0.939)	20.32 (.800)
RS/RSR-10	10	26.40(1.039)	22.86 (.900)
RS/RSR-12	12	31.48(1.239)	27.94 (1.100)

RP & RPL SERIES

Piano switches up to 25mA 24VDC , 2.54mm pitch, up to 12 poles

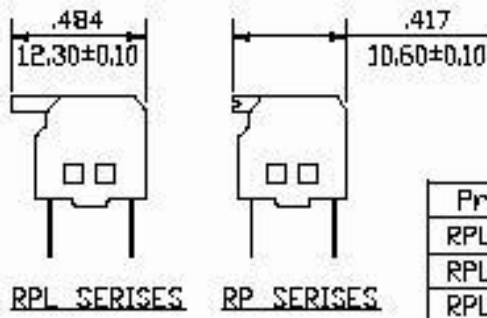
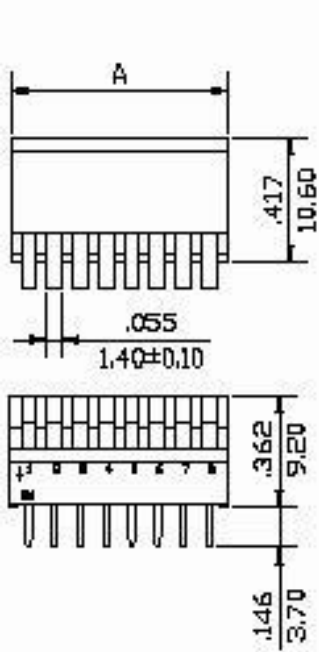


- Rating : 25mA, 24VDC
- Contact resistance : 50m ohm max, at initial.
- Insulation resistance : 100M ohm min. at 500VDC.
- Dielectric strength : 500VAC/1minute.
- Circuit : single throw, with 2 to 6 & 8, 10, 12positions
- Temperature range : -20 to + 85 degrees in Celsius

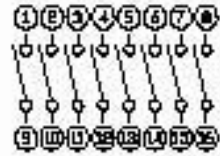
- Base : UL94V0, PBT plus glassfiber, black color
- Cover : UL94V0, PBT plus glassfiber, red or blue color
- Actuators : UL94V0, PBT plus glassfiber, white color
- Terminals&Contacts : Phosphor bronze, gold plating over nickel
- Top sealed tape available , Polyester film

How to order

RP	L	—	08	—	B	—
SERIES SYMBOL	ACTUATOR		NUMBER OF POSITIONS		COVER COLOR	SEAL
	SHORT KEY		02 07		B BLUE	REGULAR
	L LONG KEY		03 08		R RED	T TOP TAPE SEALED
			04 09		K BLACK	
			05 10			
			06 12			



RPL SERIES RP SERIES

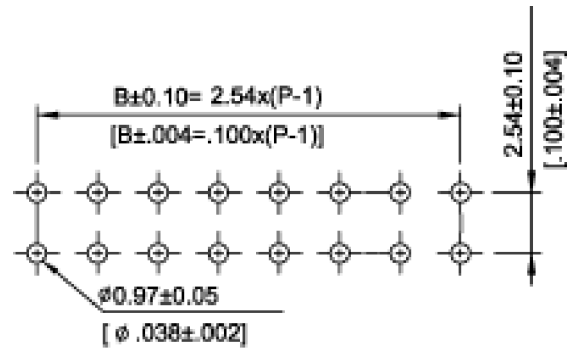


CIRCUIT DIAGAM

Prod No.	No.ofPOS	DIM.A	DIM.B
RPL/RP-02	02	6.26(0.246)	2.54 (.100)
RPL/RP-03	03	9.06(0.357)	5.08 (.200)
RPL/RP-04	04	11.34(0.446)	7.62 (.300)
RPL/RP-05	05	13.88(0.546)	10.16 (.400)
RPL/RP-06	06	16.42(0.646)	12.70 (.500)
RPL/RP-07	07	19.34(0.761)	15.24 (.600)
RPL/RP-08	08	21.5(0.846)	17.78 (.700)
RPL/RP-09	09	24.42(0.961)	20.32 (.800)
RPL/RP-10	10	26.58(1.046)	22.86 (.900)
RPL/RP-12	12	31.66(1.246)	27.94 (1.100)

DA SERIES DIP SWITCHES

Slide type; SPST Standard Right Angle, up to 25mA, 24VDC



P.C.B. LAYOUT

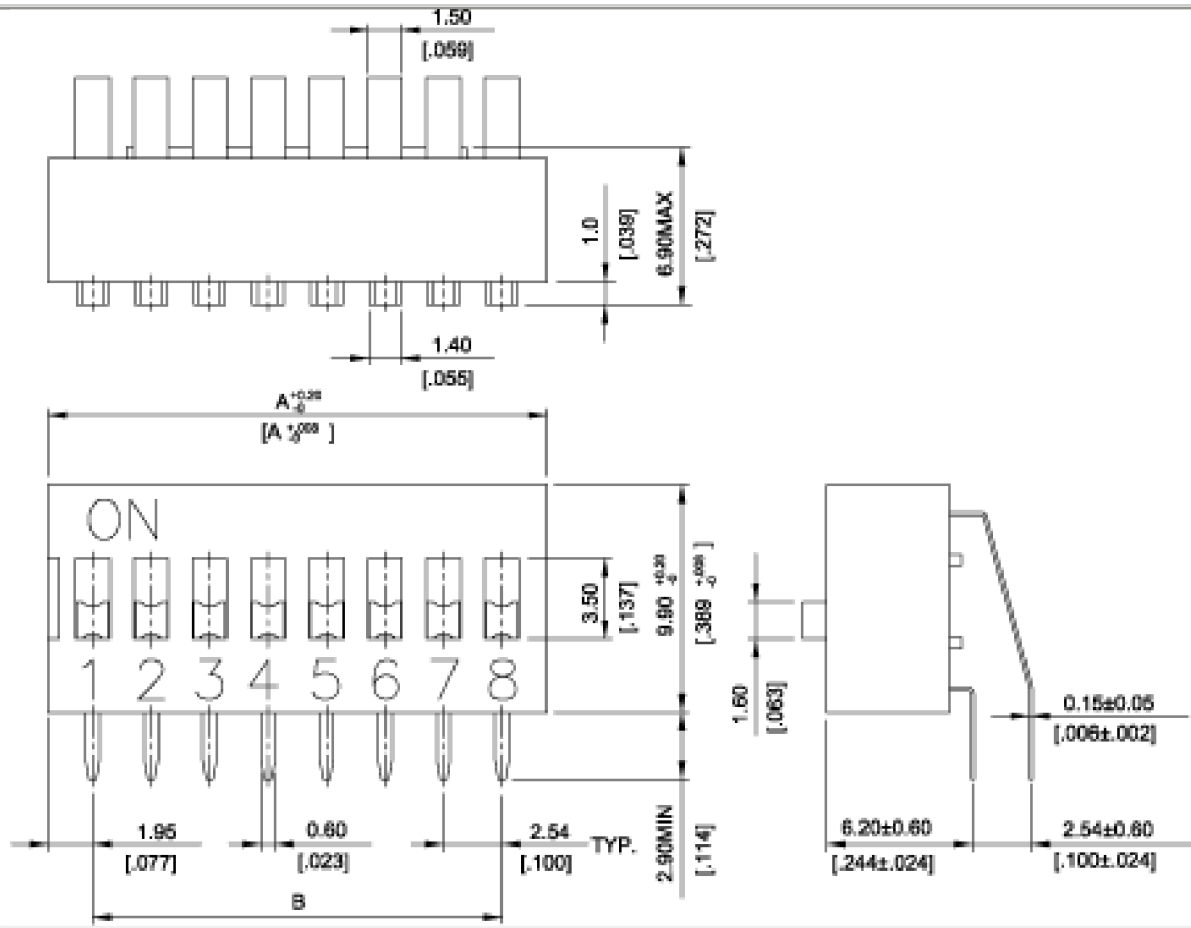
- Non-switching rating : 100mA,50VDC.
- Switching rating : 25mA, 24VDC.
- Electrical life : 2,000 operation cycles per switch 24VDC, 25mA
- Contact resistance : 50m• max. at initial.
- Insulation resistance : 100M ohm min (at 500VDC)
- Dielectric strength : 500VAC/1minute.
- Circuit : SPST
- Operating Temperature range:-20 to + 70 °C
- Storage Temperature range:-40 to + 85 °C
- Base& Cover& Actuator : UL94V-0 PBT Thermoplastic
- Contact: Phosphor bronze, gold plated
- Terminals: Phosphor bronze, gold plated
- Top Sealed tape available

How to order

DA — 09

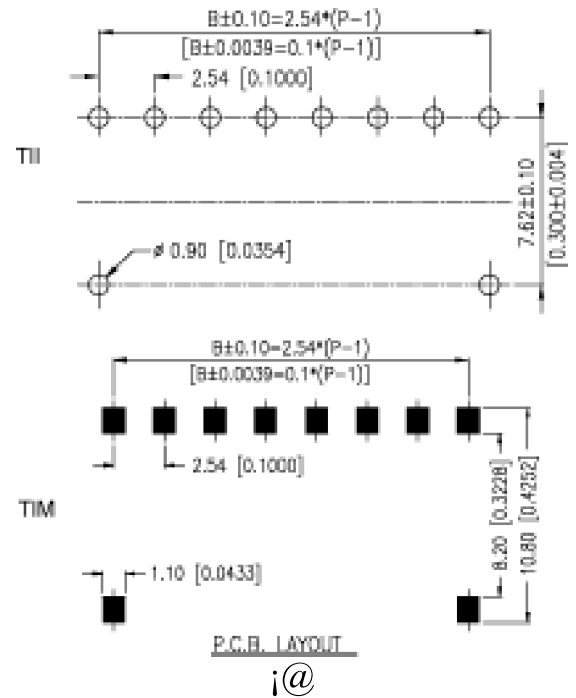
SERIES SYMBOL	POSITIONS	HOUSING COLOR	SEALED
	02-10, 12	RED B BLUE K BLACK	REGULAR T TOP TAPE SEALED

DA-08



TI DIP SWITCHES

Tri-State Low profile type; 4, 8, 9, 10 Pos. , up to 25mA, 24VDC

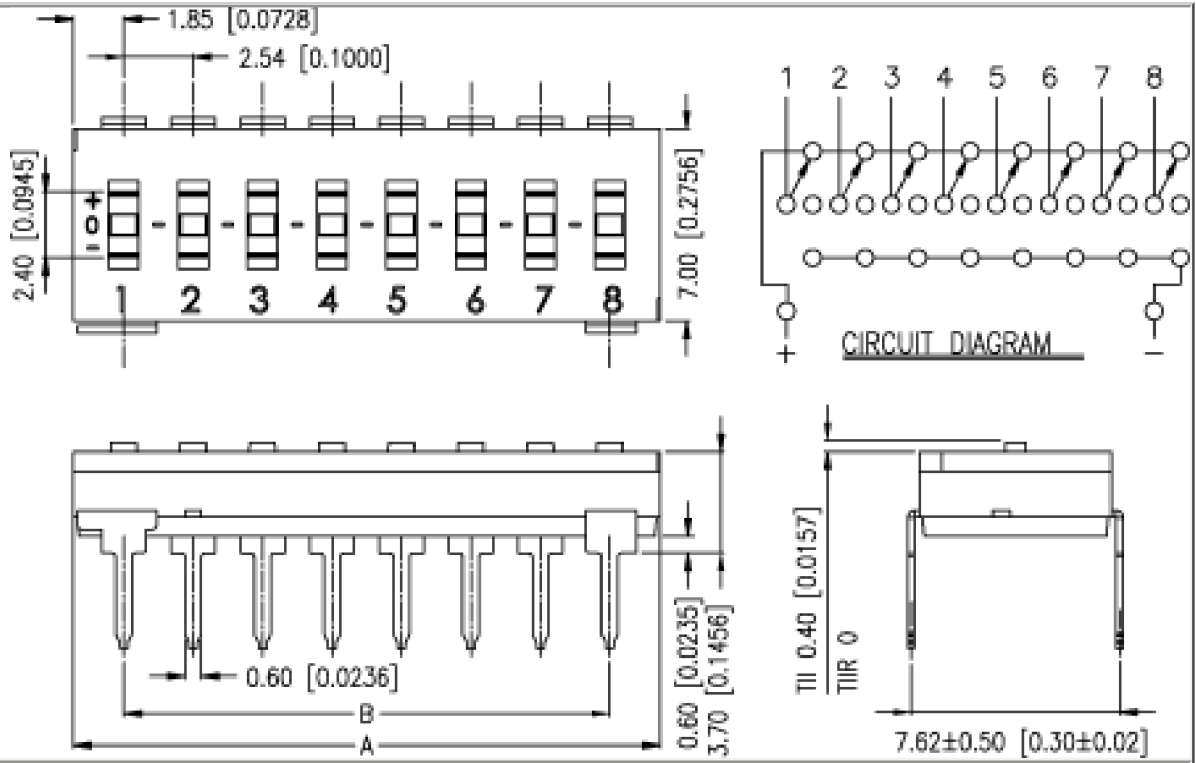


- Switching rating : 25mA, 24VDC.
- Contact resistance : 100m• max. at initial.
- Dielectric strength : 500VAC/1minute.
- Circuit : 3 switching positions
- Electrical life : 2,000 operation cycles per switch 24VDC, 25mA
- Mechanical life: 2,000 operations
- Operation force: 1,000 gf. max.
- Stroke: 0.8mm
- Operation Temp.: -20 to + 85 °C
- Storage Temp.: -40 to + 85 °C
- Base & Cover: UL94V-0 Nylon High-temp Thermoplastic. Black
- Actuator: UL94V-0 LCP High-temp Thermoplastic. White
- Contact: Alloy Cooper with gold plated

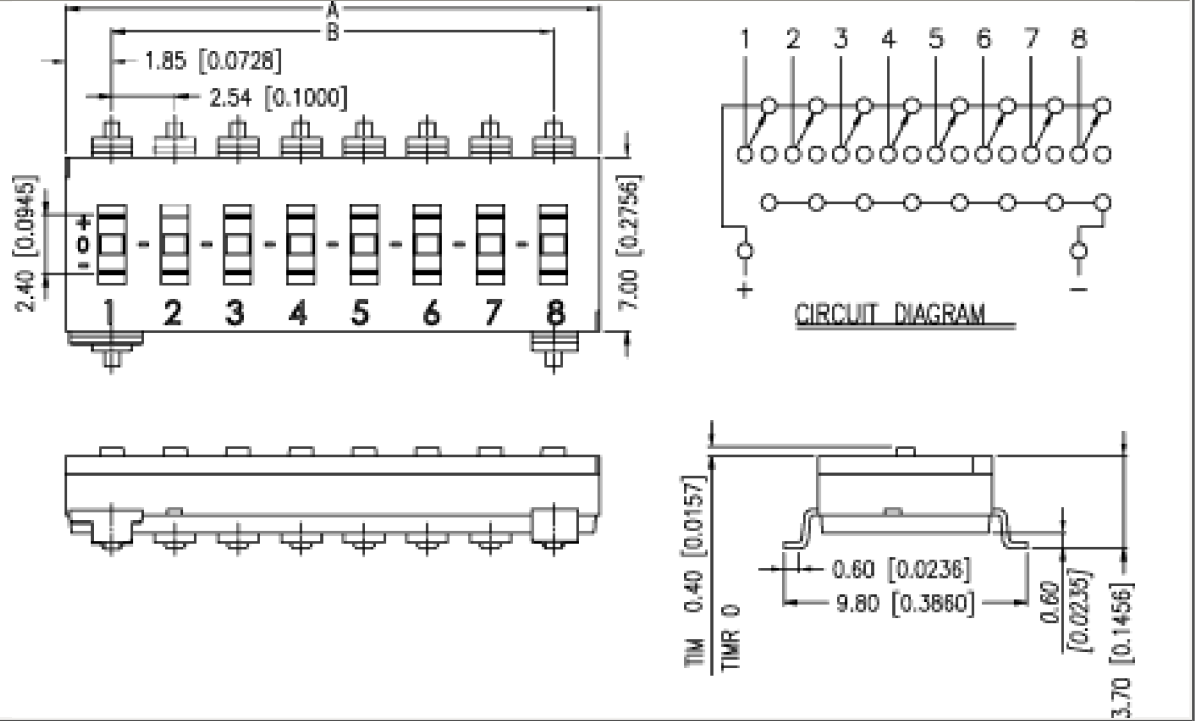
How to order

TI	M	R	—	09	—	
SERIES SYMBOL	MOUNTING	ACTUATOR		POSITIONS	SEALED	PACKAGE
	I THROUGH HOLE M SMT	RAISED R RECESSED		04 4 Positions 08 8 Positions 09 9 Positions 10 10 Positions	REGULAR T TOP TAPE SEALED	TUBE T/R TAPE & REEL

TII(R)

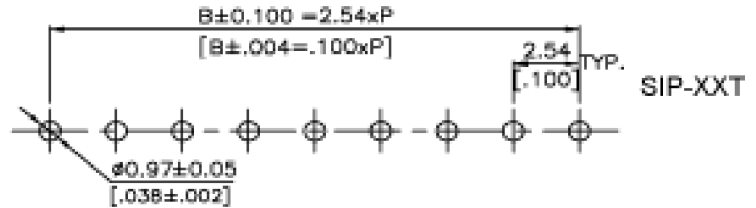
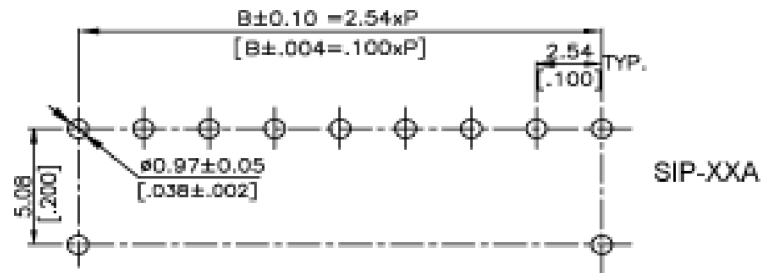


TIM(R)



SIP SERIES DIP SWITCHES

Single In Line Package Type; Straight & Right Angle Terminal, up to 10mA, 5VDC



P.C.B. LAYOUT

- Switching rating : 10mA, 5VDC
- Non-Switching: 100mA, 50VDC
- Contact resistance at current 100mA : 100mΩ max. at initial. 200mΩ max. after life test
- Dielectric strength : 300VAC/1minute.
- Circuit : SPST
- Electrical life : 500 operation cycles per switch 5VDC, 10mA
- Mechanical life: 500 operations
- Operation force: 800 gf. max.

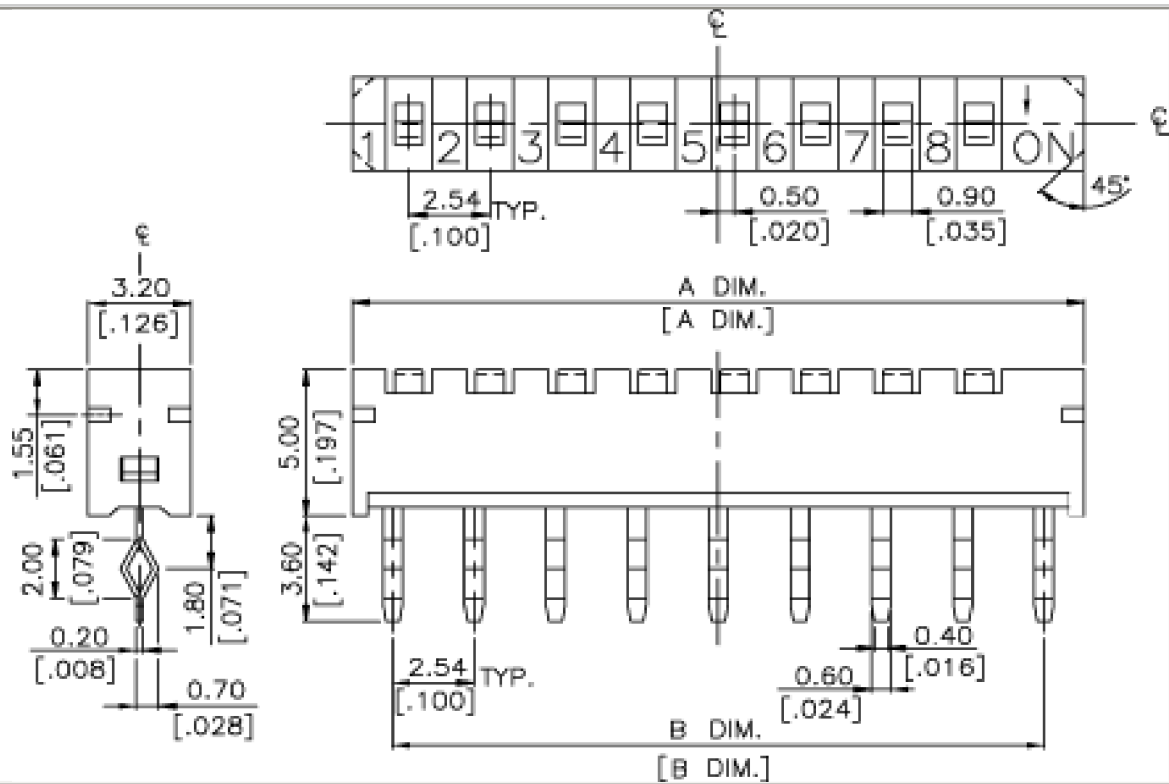
- Operation Temp.: -30 to + 80 °C
- Storage Temp.: -30 to + 80 °C
- Base: UL94V-0 PBT or Nylon High-Temp Thermoplastic, color black.
- Cover: UL94V-0 Nylon High-temp Thermoplastic. color black
- Actuator: UL94V-0 Nylon High-temp Thermoplastic. color white
- Contact: Alloy Cooper with gold plated
- Terminal: Brass C2680-H with Tin plated

How to order

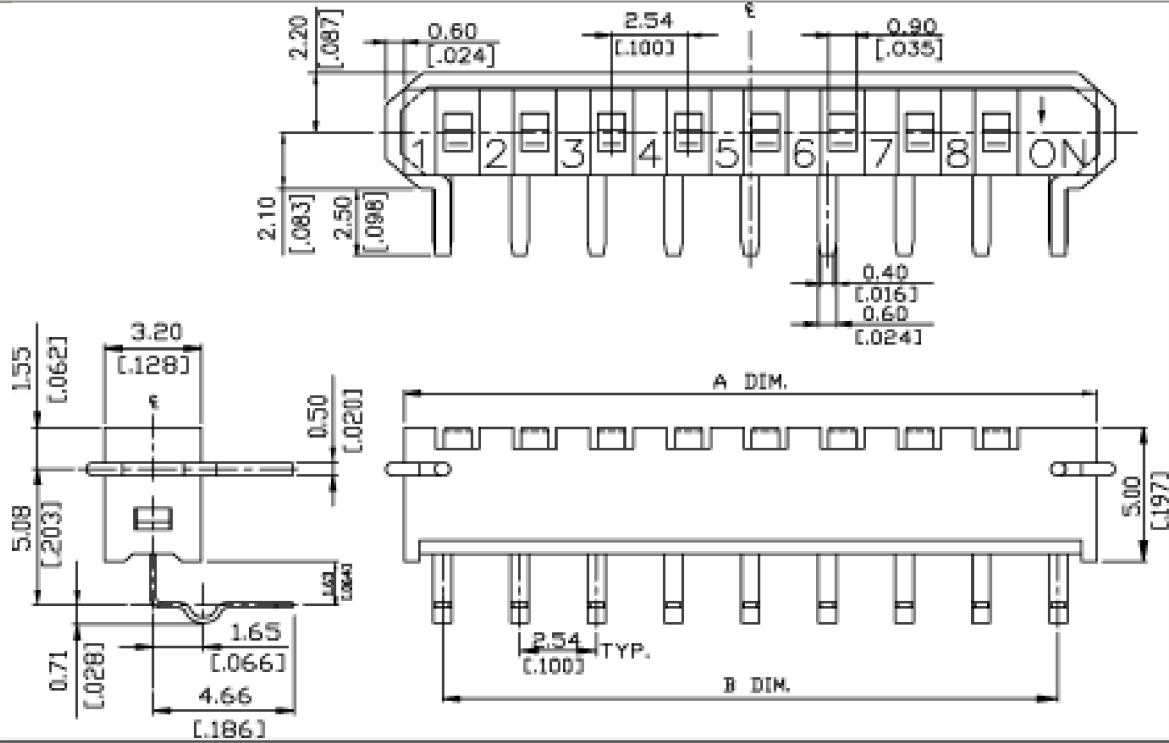
SIP — 04 T

SERIES SYMBOL	POSITIONS	TERMINAL
	02	T STRAIGHT
	04	
	06	A RIGHT ANGLE
	08	
	10	

SIP-08T

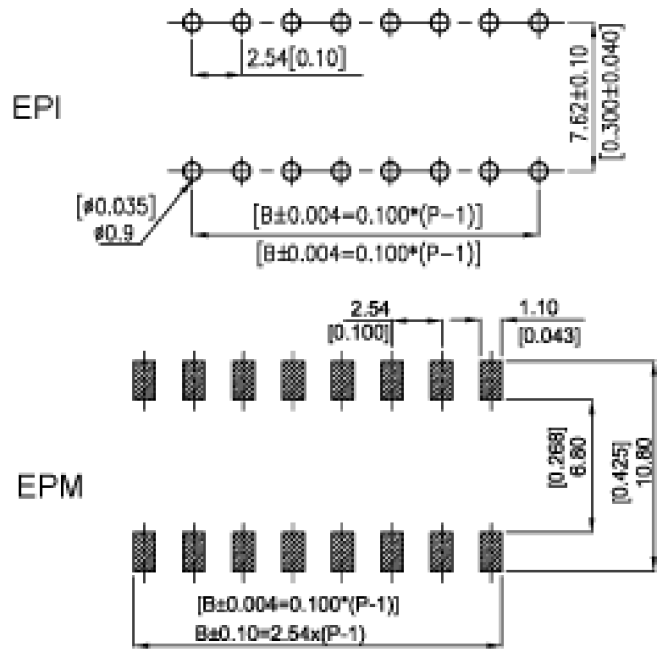


SIP-08A



EPI, EPM SERIES DIP SWITCHES

End Stackable & Piano Type; SMT & Through Hole type , up to 25mA, 24VDC



P.C.B. LAYOUT

- Switching rating : 25mA, 24VDC
- Non-Switching: 100mA, 50VDC
- Contact resistance: 100m• max. at initial.
- Dielectric strength : 500VAC/1minute.
- Insulation resistance: 100M• min., at 500VDC
- Electrical life : 2000 operation cycles per switch 24VDC, 25mA
- Mechanical life: 2000 operations

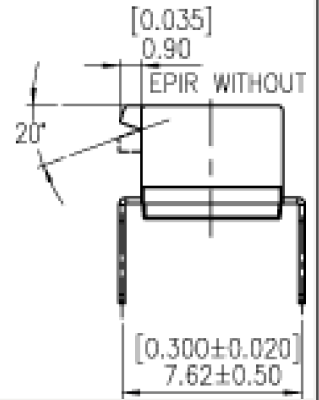
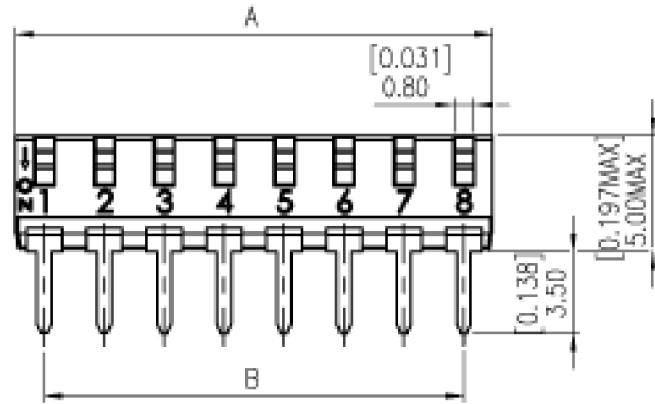
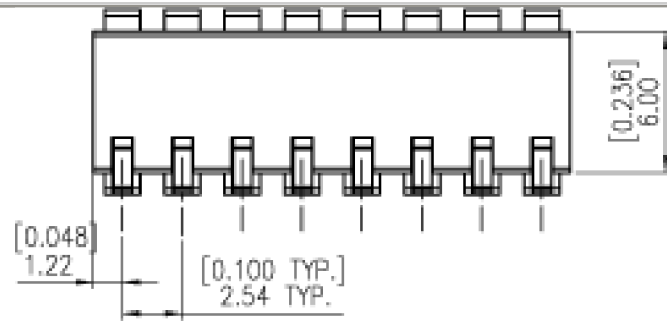
- Operation Temp.: -20 to + 85 °C
- Storage Temp.: -40 to + 85 °C
- Base & Cover: UL94V-0 Nylon High-Temp Thermoplastic, color black.
- Stem: UL94V-0 Nylon High-Temp Thermoplastic, color white
- Contact: Alloy Cooper with gold cladding
- Terminal: Brass with gold

i@

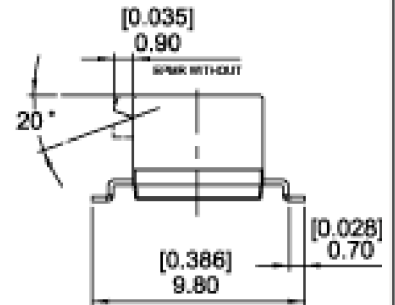
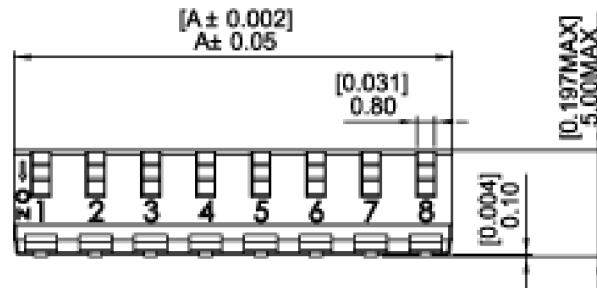
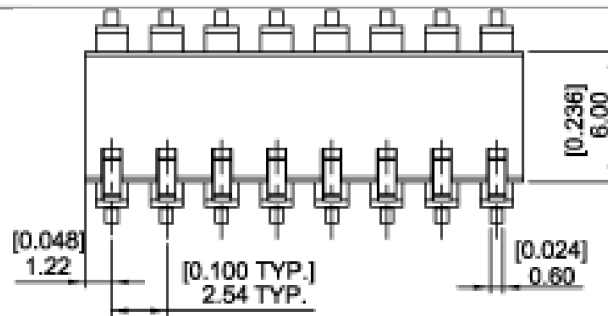
How to order

EP	M	—	08	—	T/R
SERIES SYMBOL	Mounting	Actuator	Position	Push Function	Package
	M SMT	Raised	02 04 06 08 10	Push ON	Tube
	I Through hole	R Recessed		F Push OFF	T/R Tape & reel (EM type only)












EPI



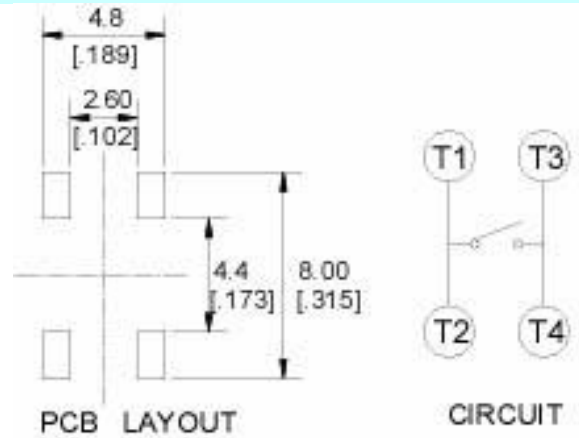
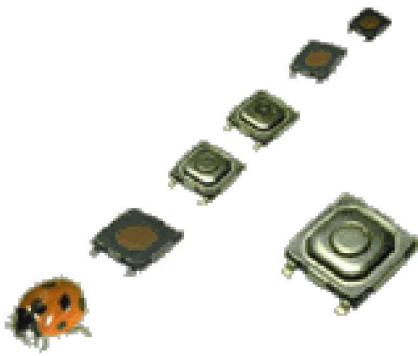
EPM





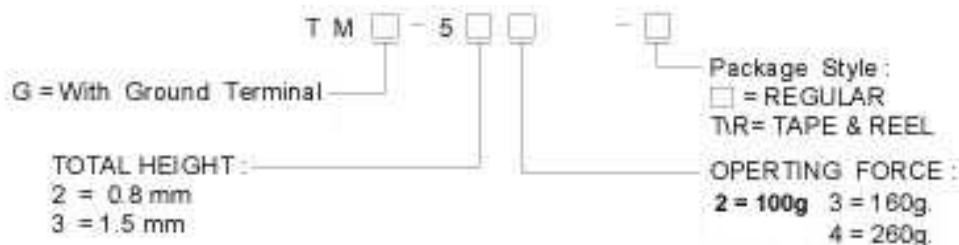
••		••••	••
TMG523, TMG533		SMD	5x5, ••• SMD••••
DTSH-3, DTSM-3		SMD, DIP	3.5X6 •••••, PCB••• SMD
DTSHW6, DTSMW6		SMD, DIP	6x6, •••, PCB••• SMD
DTSH-2&6, DTSM-2&6		SMD, DIP	6x6 or 12x12 •••
DTST-6		DIP	6X6mm ••••, ••••
TS47-25MV160		SMD	4.7*3.5,••••••••, SMT, ••
SS204		SMD	6x3.6x2.5, SMD••••, 50mA 12VDC
SS208		SMD	6.9*3.4*3.5, SMD••••••••; 50mA 12VDC
SS302		SMD	3.9X2.9X2.0, SMD••••••; 50mA 12VDC
SS304		SMD	4.7X3.5,1.7mm•• SMD••••••; 50mA 12VDC
SS307		SMD	3.3x3.3mm, SMD••••••; 50mA 12VDC

TMG-523/533, 5x5, ultra small SMT tact switches up to 50mA 12VDC, mechanical contact

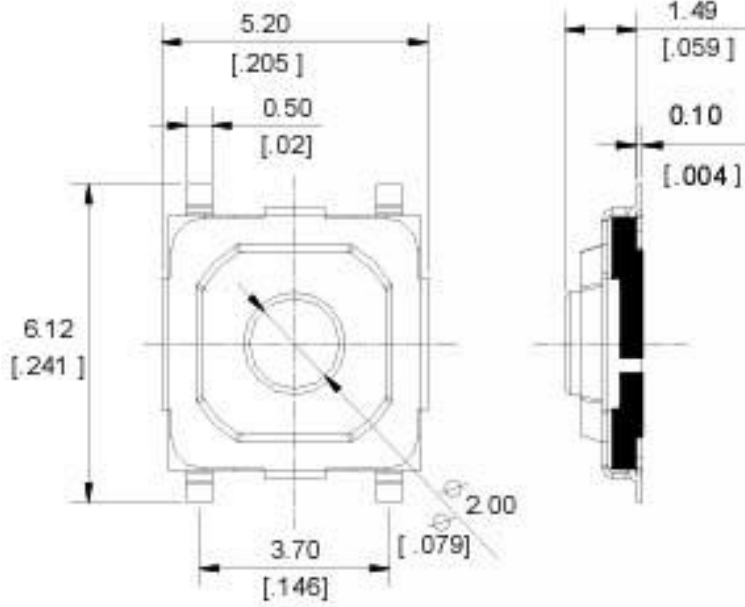


- Rating : 50mA,12VDC.
- Electrical life : 300,000 cycles min.
- Contact resistance : 100m ohm max.
- Insulation resistance : 100M ohm min. at 500VDC.
- Dielectric strength : 250VAC/1minute.
- Circuit : single pole, single throw
- Temperature range : -25 to + 70 degrees
- Storage temperature range : -30 to +80 degrees
- Base : High-temp. thermoplastic
- Cover : Stainless steel
- Stem : Brass for TM-533
- Contact disc : Phosphor bronze with silver cladding.
- Terminal : Brass with silver cladding.
- Ultra sized, compact designed

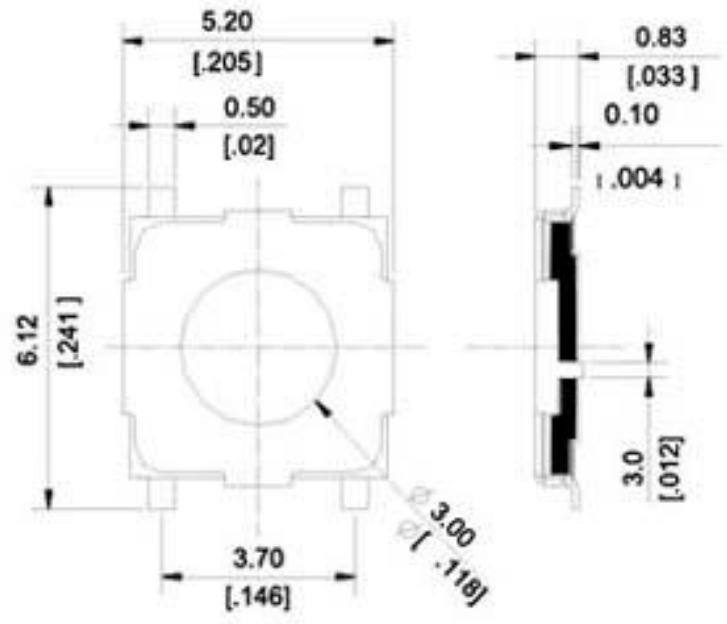
How to order



i@



TMG-533



TMG-523

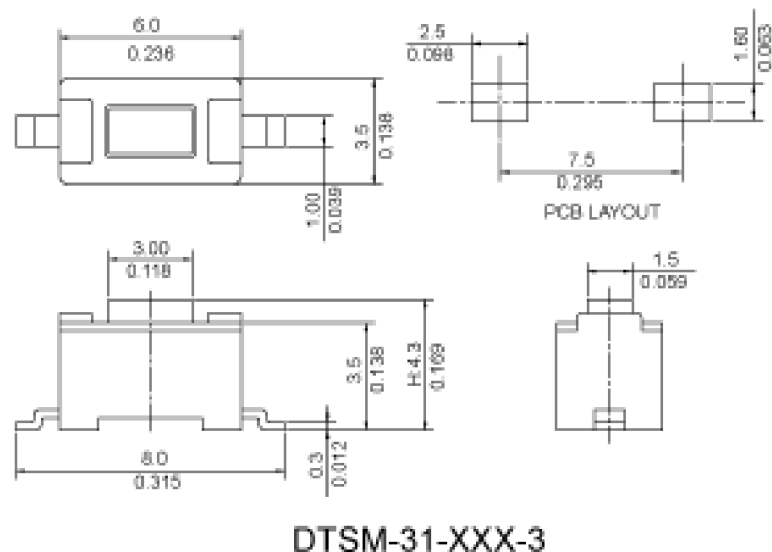
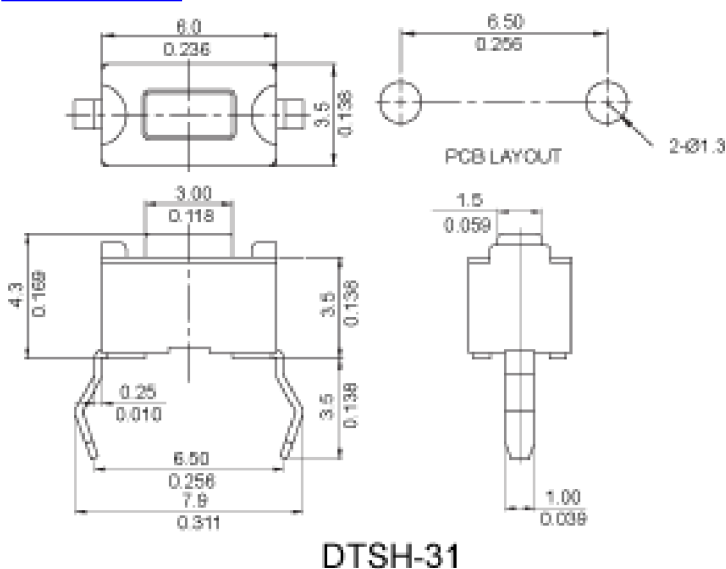
DTSH-3 DTSM-3 SERIES

3.5X6 ultra miniature tact, through hole or SMT, mechanical contact

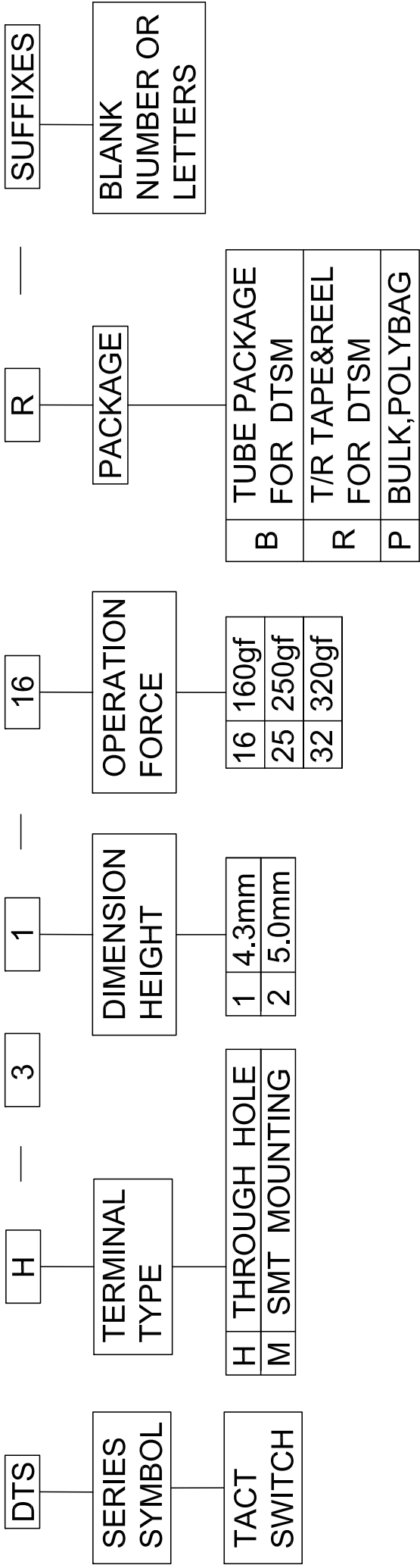


- Rating : 50mA,12VDC.
- Electrical life : 35,000~500,000 cycles
- Contact resistance : 100m ohm max.
- Insulation resistance : 100M ohm min. at 500VDC.
- Dielectric strength : 250VAC/1minute.
- Circuit : single pole, single throw
- Temperature range : -20 to + 85 degrees in Celsius
- Base : UL94V-0 nylon or PPA high-temp., thermoplastic, black color
- Cover : Stainless steel
- Stem : UL94V-0 nylon high-temp., thermoplastic,
- Contact disc : Phosphor bronze with silver cladding.
- Terminals : Brass with silver cladding.
- Horizontal mounting available

How to order



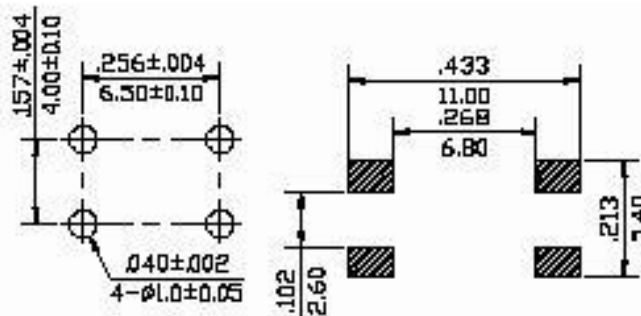
DTS* SERIES SWITCHES MODEL NUMBER DESIGNATION SYSTEM



DTSHW6, DTSMW66x6, washable, through hole or SMT, mechanical contact, up to 50mA, 12VDC

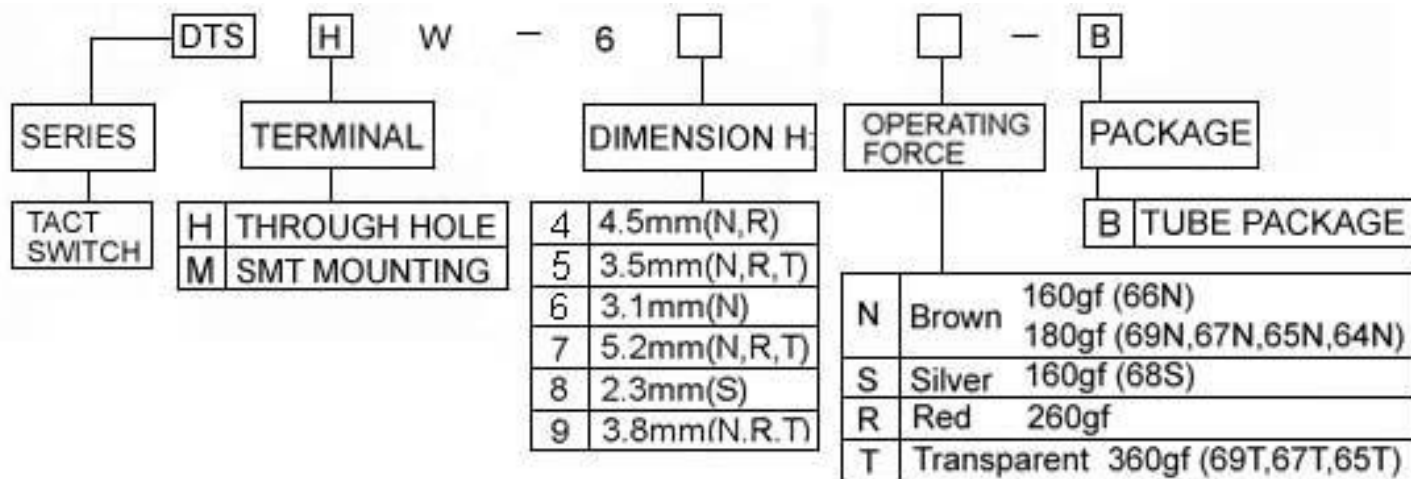


P.C.B. LAYOUT OF THROUGH HOLE&SMT

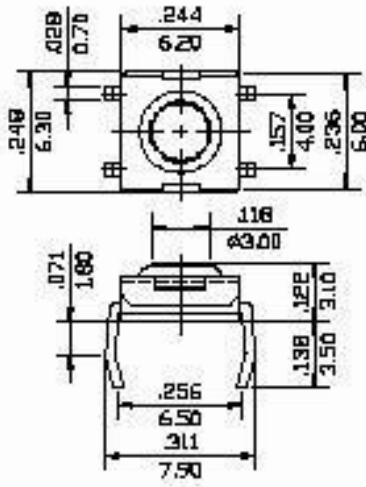


- Rating : 50mA,12VDC.
- Electrical life : 500,000 cycles min.for 69,67, 65, 64; 100,000 cycles min. for 66, 68
- Contact resistance : 100m ohm max.
- Insulation resistance : 100Mohm min. 500VDC.
- Dielectric strength : 250VAC/1minute.
- Circuit : single pole, single throw
- Temperature range : -25 to + 70 ϕ J
- Storage Temperature: -30 to + 80 ϕ J
- Contact disc : Phosphor bronze with silver cladding.
- Terminals : Brass with silver cladding.
- Base : UL94V-0 nylon high-temp., Thermoplastic, black color
- Cover : Stainless steel
- Tube: 75 pcs/ tube

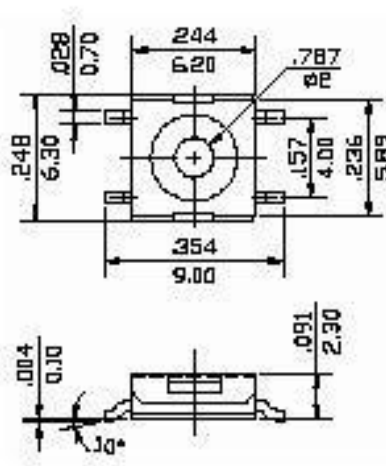
How to order



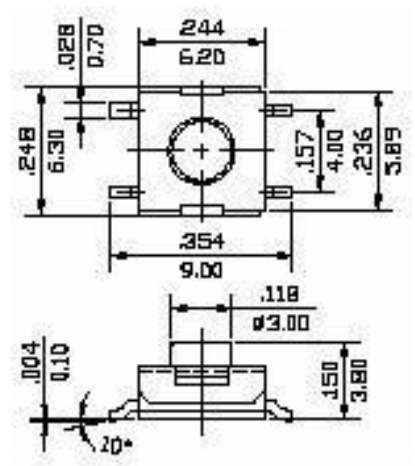
DTSHW-66N



DTSMW-68S



DTSMW-69R

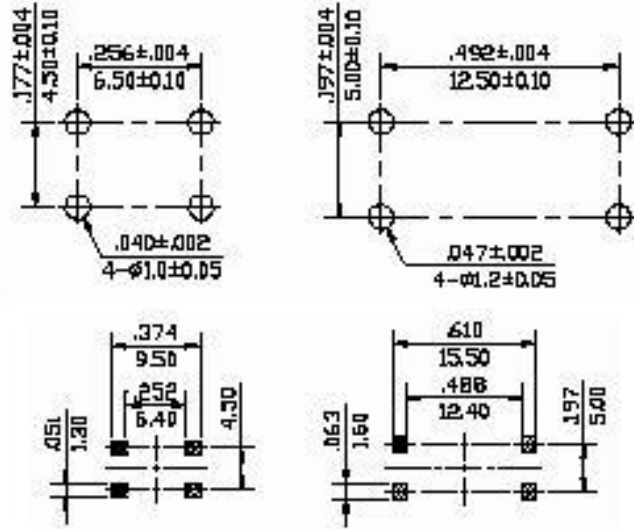


DTSH-2&6, DTSM-2&6 SERIES

6x6 or 12x12, mechanical contact, up to 50mA, 12VDC



THROUGH HOLE & SMT P.C.B. LAYOUT OF
6X6 & 12X12

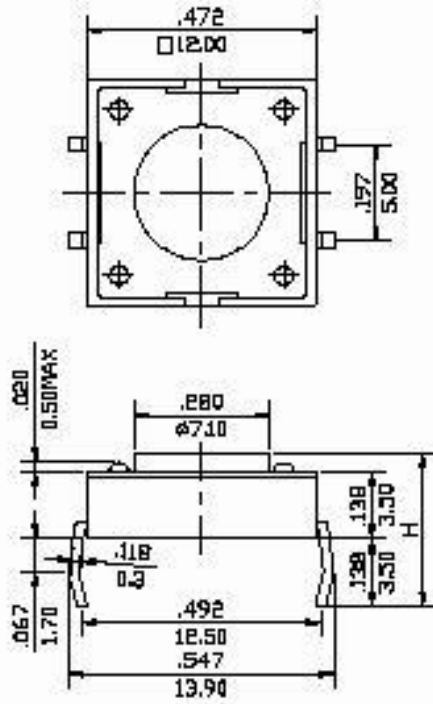


- Rating : 50mA,12VDC.
- Electrical life : 100,000~500,000 cycles.
- Contact resistance : 100m ohm max.
- Insulation resistance : 100M ohm min. at 500VDC.
- Dielectric strength : 250VAC/1minute.
- Circuit : single pole, single throw
- Temperature range : -20 to + 85 degrees in Celsius
- Cap available for square stem: thermoplastic ABS, square or round type

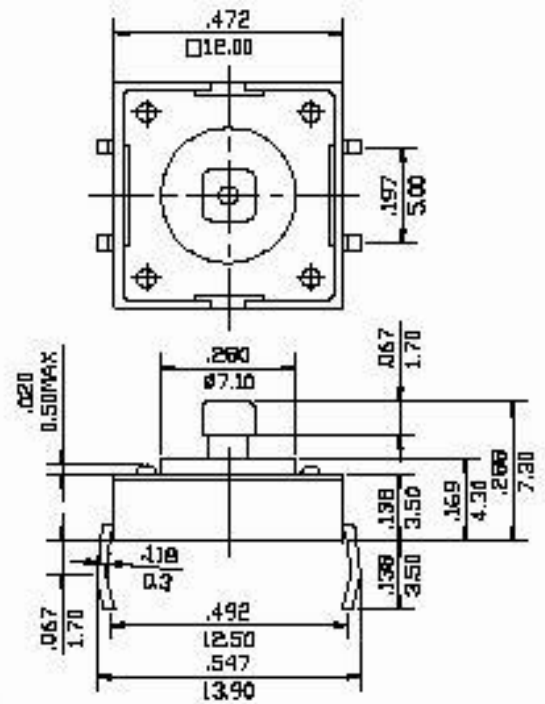
- Base : UL94V-0 Nylon thermoplastic, black color
- Cover : Stainless steel
- Stem : UL94V-0 Nylon thermoplastic
- Contact disc : Phosphor bronze with silver cladding.
- Terminal : Brass with silver cladding.

[How to order](#)

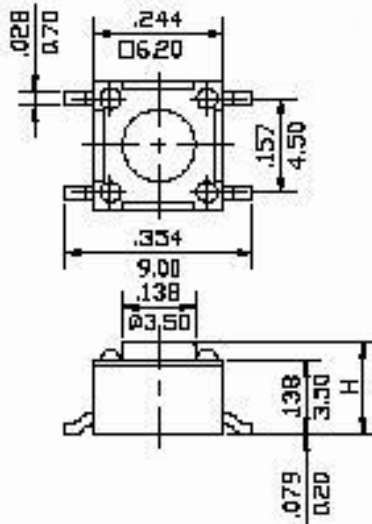
DTSH-2*,



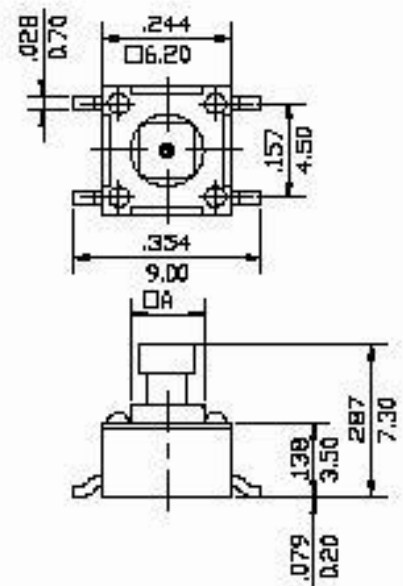
DTSH-24



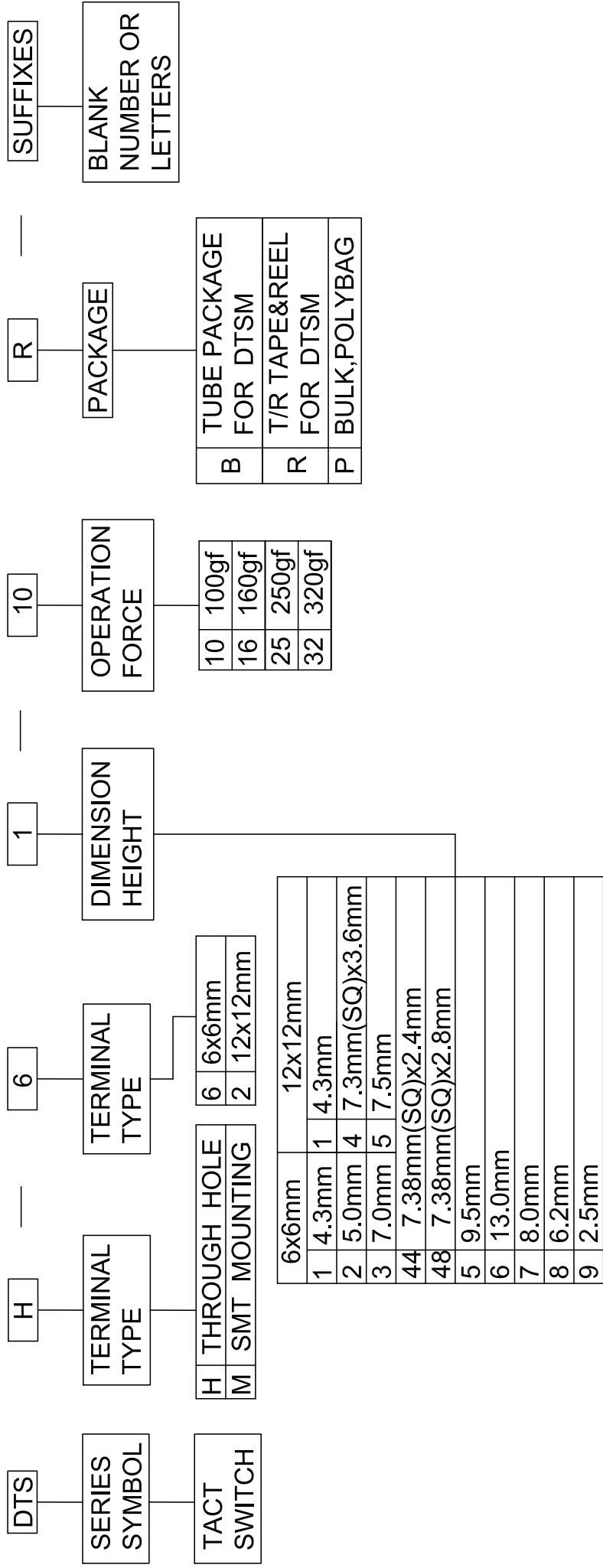
DTSM-6*,



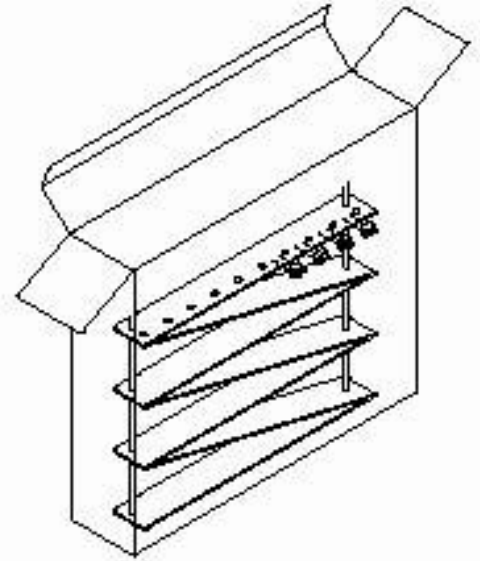
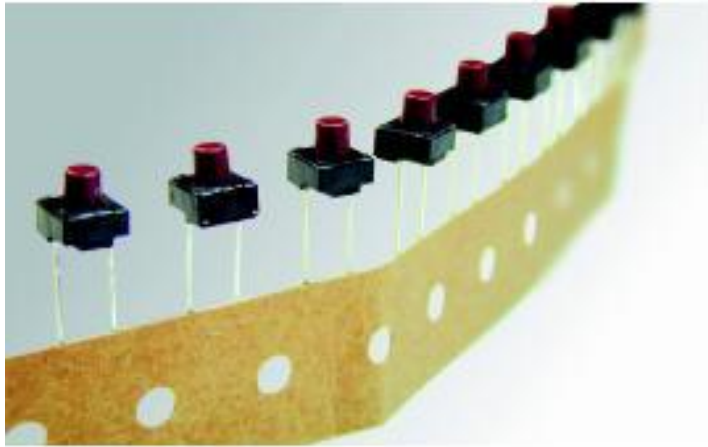
DTSM-644&48



DTS* SERIES SWITCHES MODEL NUMBER DESIGNATION SYSTEM



DTST-6 SERIES, 6X6mm tact switch, radial tapping, mechanical contact, up to 50mA, 12VDC



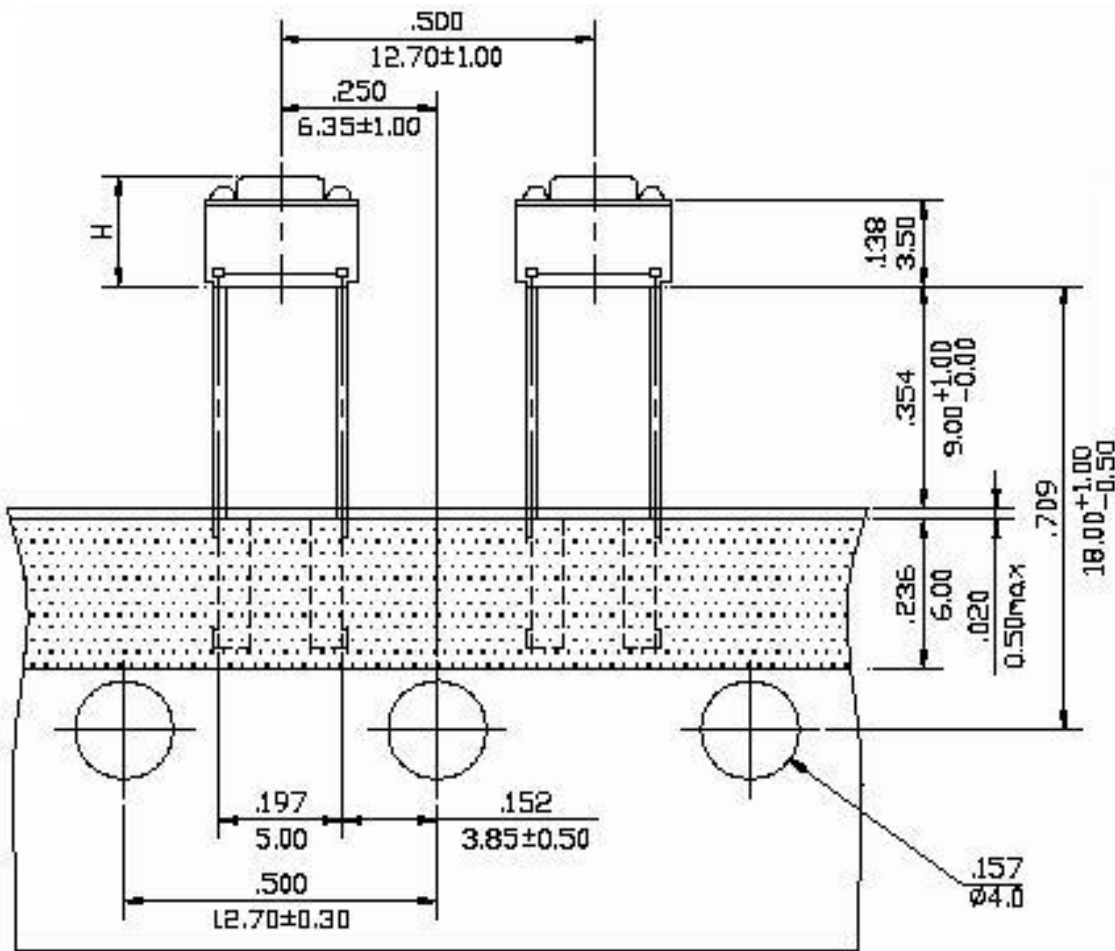
PACKING :
900 pcs/inner.
10 inner/carton.

- Rating : 50mA,12VDC.
- Electrical life : 50,000 cycles for 260gf, 320gf, 520gf.
- Electrical life : 500,000 cycles for 70gf, 100gf, 160gf.
- Contact resistance : 100m ohm max.
- Insulation resistance : 100M ohm min. at 500VDC.
- Dielectric strength : 250VAC/1minute.
- Circuit : single pole, single throw
- Temperature range : -20 to + 85 degrees in Celsius
- Cap available for square stem: thermoplastic ABS, square or round type

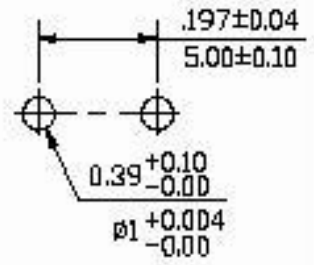
- Horizontal mounting available only for DTSH-6
- Base : UL94V-0 Nylon thermoplastic, black color
- Cover : Stainless steel
- Stem : UL94V-0 Nylon thermoplastic
- Operation force to different colored stem: Blue (70g), Black (100g), Brown (160g), Red(260g), Salmon(320g), Yellow(520g)
- Contact disc : Phosphor bronze with silver cladding.
- Terminal : Brass with silver cladding.

How to order: [see more detail spec.](#)

DTST - 6		1		N	
DIMENSION HEIGHT				OPERATION FORCE	
1	4.3mm	5	9.5mm	K	BLACK 100gf
2	5.0mm	6	13mm	N	BROWN 160gf
3	7.0mm			R	RED 260gf
44	7.38mm(SQ.)x2.4mm				
48	7.38mm(SQ.)x2.8mm				

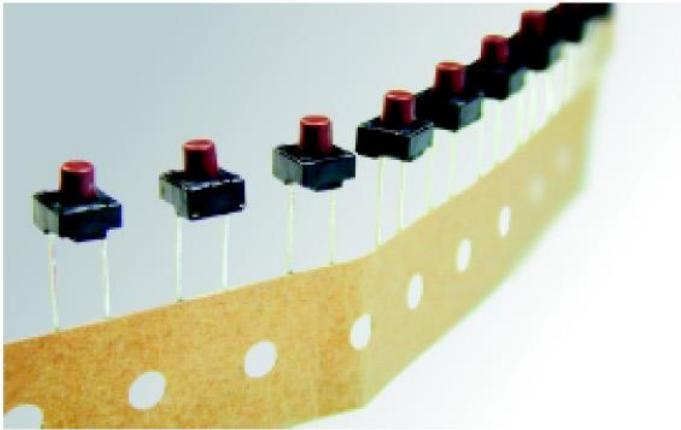


P.C.B. LAYOUT



DTST-6 SERIES

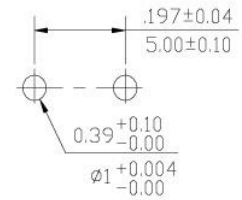
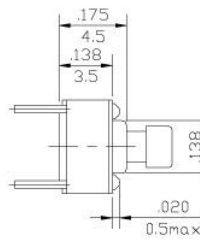
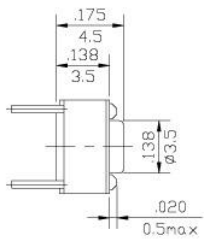
6X6mm TACT SWITCHES, RADIAL TAPING, NON WASHABLE
Mechanical contact



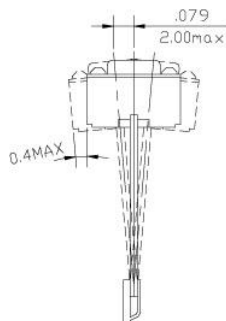
DTST -	6	1	N
DIMENSION HEIGHT		OPERATION FORCE	
1	4.3mm	5	9.5mm
2	5.0mm	6	13mm
3	7.0mm		
44	7.38mm(SQ.)x2.4mm		
48	7.38mm(SQ.)x2.8mm		
K	BLACK	100gf	
N	BROWN	160gf	
R	RED	260gf	

• Electrical&Material features same as DTSH-6

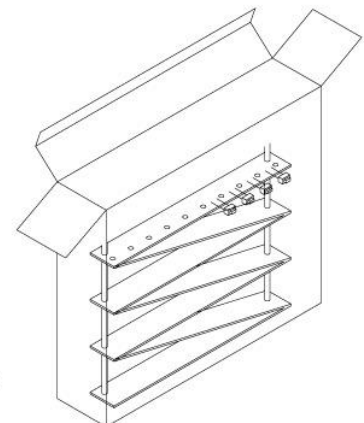
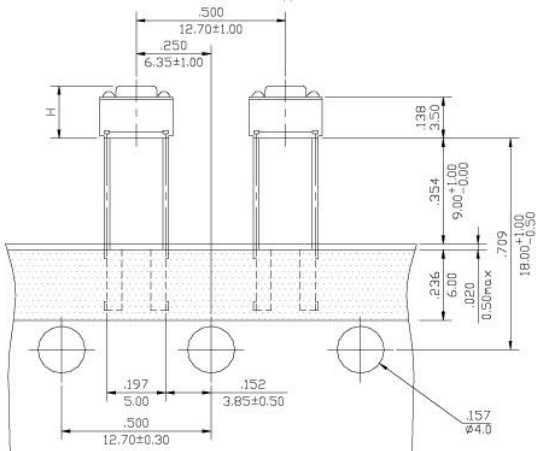
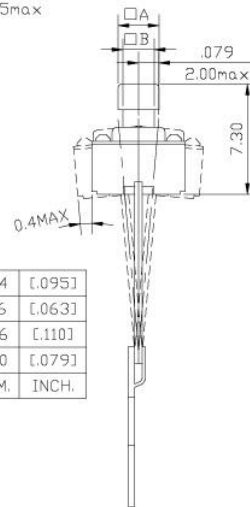
P.C.B. LAYOUT



DTST-66	□	13.0	[.512]
DTST-65	□	9.5	[.374]
DTST-63	□	7.0	[.275]
DTST-62	□	5.0	[.197]
DTST-61	□	4.3	[.169]
PRDD.	NO.	H	



DTSM-664	□A	2.4	[.095]
	□B	1.6	[.063]
DTSM-648	□A	2.6	[.110]
	□B	2.0	[.079]
PRDD.	NO.	LDC.	MM, INCH.



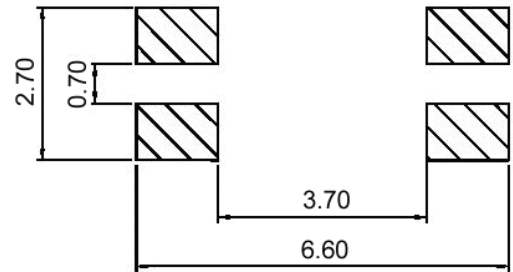
PACKING :
900 pcs/inner.
10 inner/carton.

TS47-25MV160 SERIES

4.7x3.5, Ultra Small Tact Switch, SMD Mounting, Taping-Packed, Mechanical Contact, up to DC12V 50mA



P.C.B LAYOUT

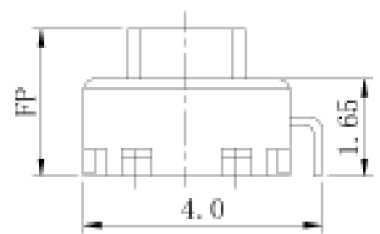
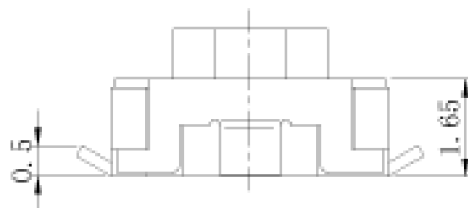


- Rating : DC12V 50mA.
- Electrical life : 100,000 cycles.
- Contact resistance : 500m ohm max.
- Insulation resistance : 100M ohm min. 100VDC.
- Dielectric strength : 250VAC/1minute.
- Temperature range : -20 to + 70 degrees in Celsius
- Soldering temper: 230degrees in Celsius max.
- Ambient humidity used: 85% RH max
- Operating force: 160 ± 40gf
- Travel: 0.3 ± 0.1

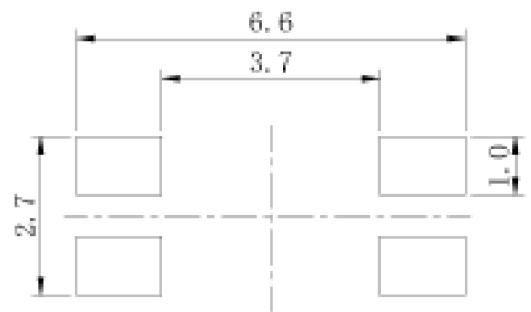
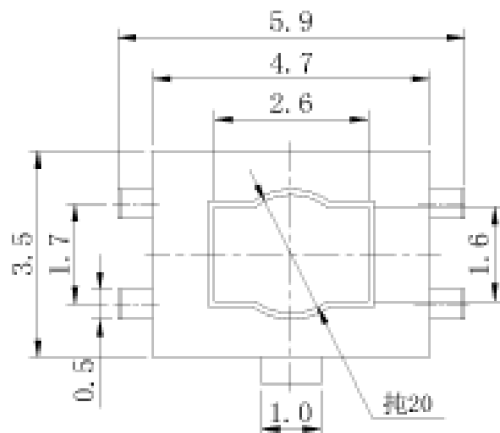
- Base : Nylon or PA high-temp., Thermoplastic, black color
- Cover : Stainless steel
- Stem:Nylon or PA high-temp., Thermoplastic, White color
- Terminals:Brass with silver cladding.
- Contact: Stainless steel (single side silver plated)

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TS47-25MV160



P. C. B LAYOUT



SS204 SERIES

Surface Mount type tact switch; up to 50mA 12VDC
6.0mm X 3.6mm and 2.5mm height

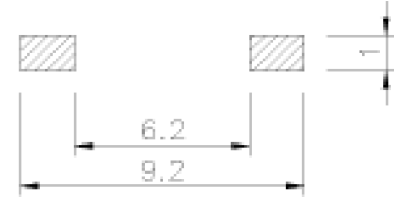
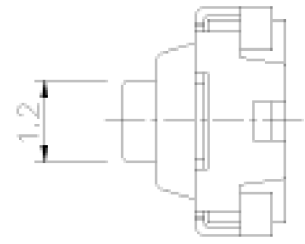
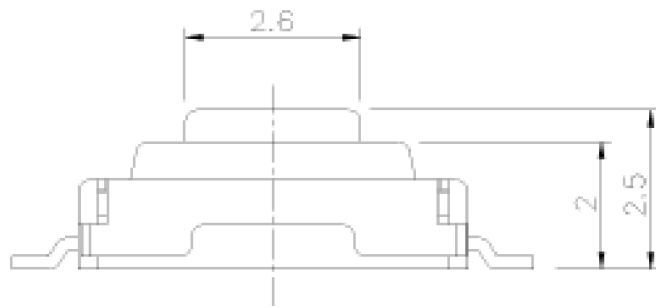
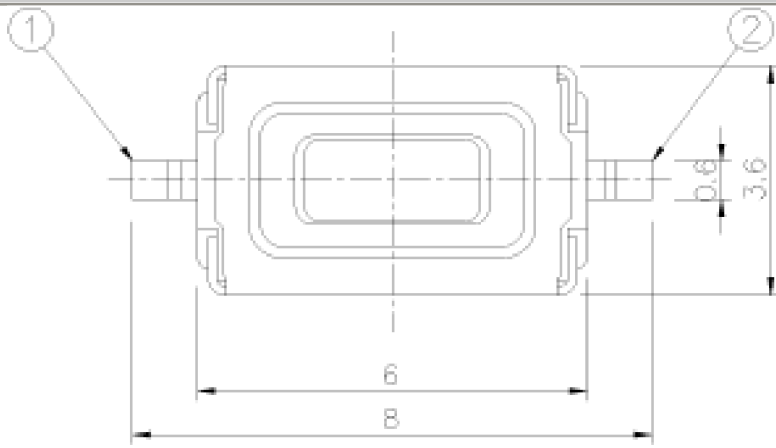


- Rating: 50mA 12VDC
- Action: SPST, push on
- Initial contact resistance : 100m ohm (max.)
- Insulation resistance : 100M ohm (min,) at 100VDC
- Dielectric strength : 250VAC for 1 minute
- Electrical life : 50,000 cycles for force: 160gf+/-50 , 30,000 cycles for 260gf+/-50
- Surface mount type
- Body size: 6.0x3.6mm and 2.5mm height
- SMD terminals and J-bent SMD terminals
- Reel Package

How to order

SS204	BS	16
SERIES SYMBOL	POST TYPE	OPERATING FORCE
	BS 	16 160g 26 260g
	BJ  J-bent	

SS204BS

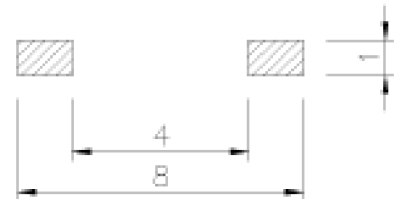
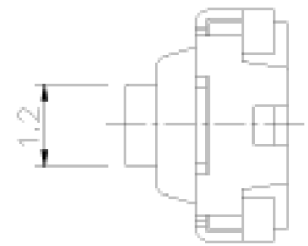
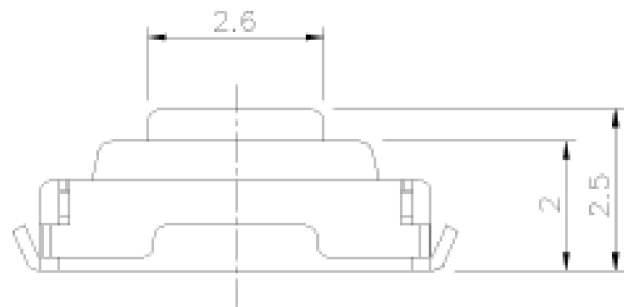
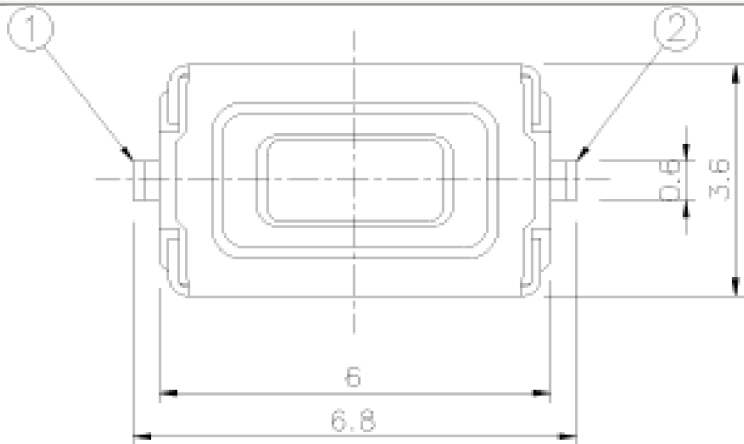


LAYOUT



CIRCUIT

SS204BJ



LAYOUT



CIRCUIT

SS208 SERIES

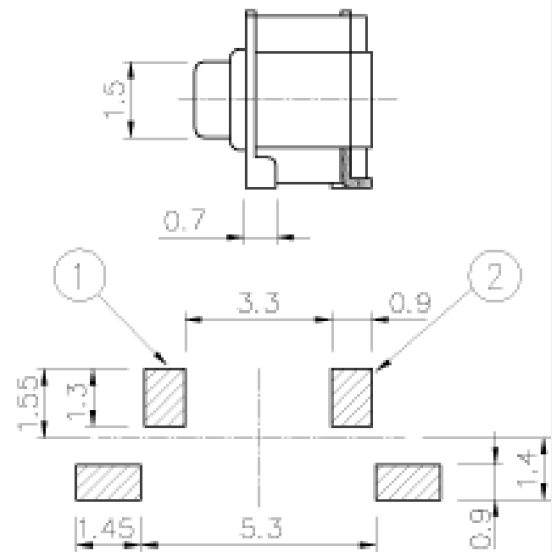
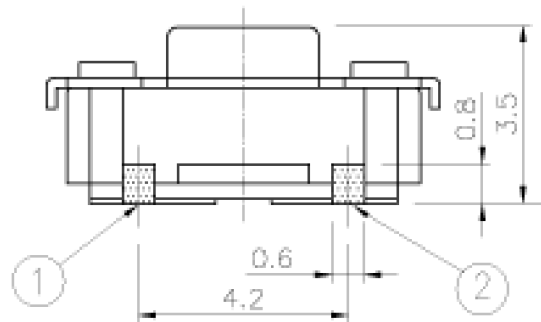
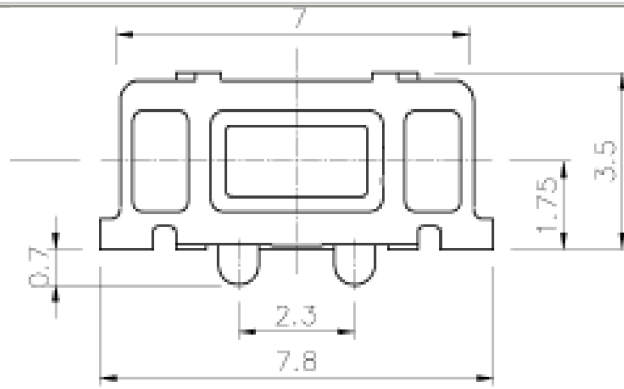
Surface Mount side-push type tact switch; up to 50mA 12VDC
6.9mm X 3.5mm and 3.4mm height



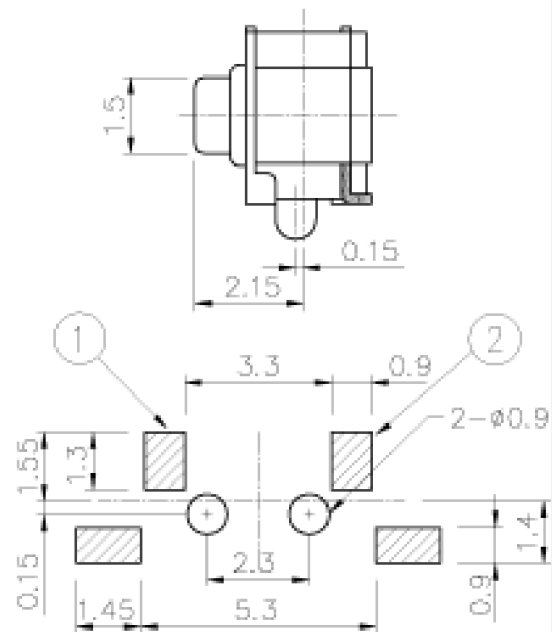
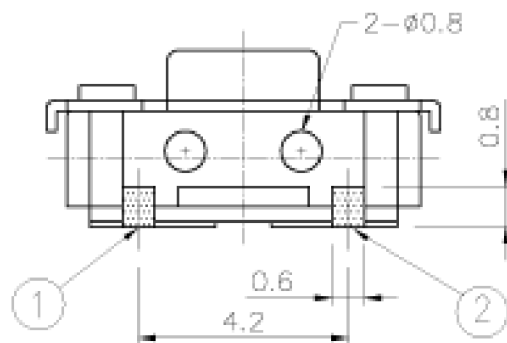
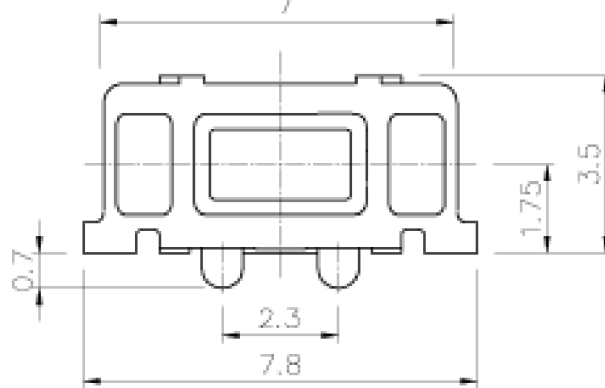
- Rating: 50mA 12VDC
- Action: SPST, push on
- Initial contact resistance : 100m ohm (max.)
- Insulation resistance : 100M ohm (min,) at 100VDC
- Dielectric strength : 250VAC for 1 minute
- Life : 160g/50,000 cycles; 260g/30,000 cycles
- Operating force: 160gf+/-50; 260gf+/-60
- Surface mount type side push type
- Body size: 6.9x3.5mm and 3.4mm height
- SMD terminals terminals, with or without guide boss
- Reel Package

How to order

SS208		BS	16
		Post type	
BS		Operating force	
GS			
		16	160g
		26	260g

SS208BS

Circuit diagram

SS208GS

Circuit diagram







SS302 SERIES

LOW PROFILE, SMT TACT SWITCHES; up to 50mA 12VDC
Flat/ J-bent terminal for choice, 3.9mm X 2.9mm and 2.0 height

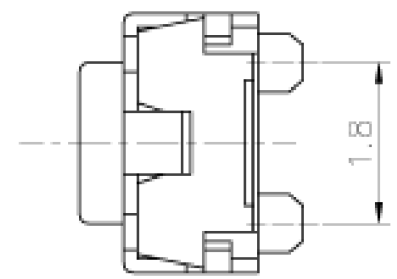
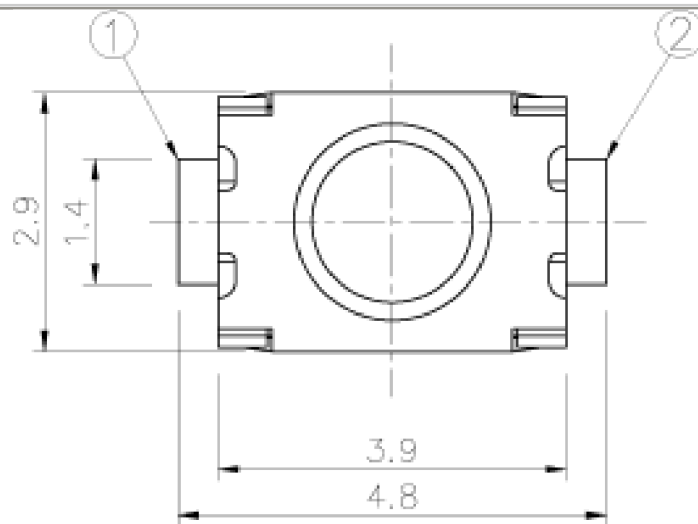
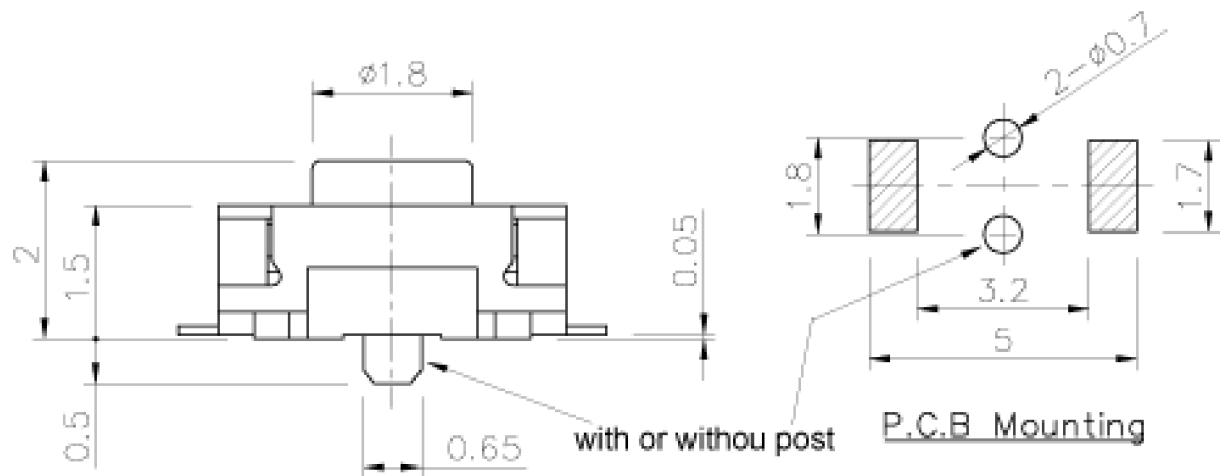


- Rating: 50mA 12VDC
- Action: SPST, push on
- Initial contact resistance : 100m ohm (max.)
- Insulation resistance : 100M ohm (min,) at 100VDC
- Dielectric strength : 100VAC for 1 minute
- Surface mount type
- Body size: 3.9x2.9mm and 2.0mm height
- SPST, PUSH ON
- Flat SMD terminals and J-bent SMD terminals
- Reel Package

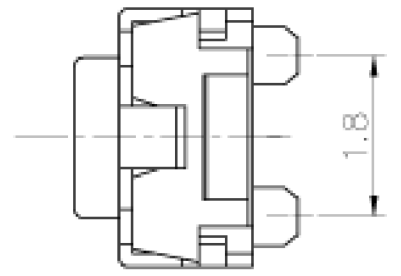
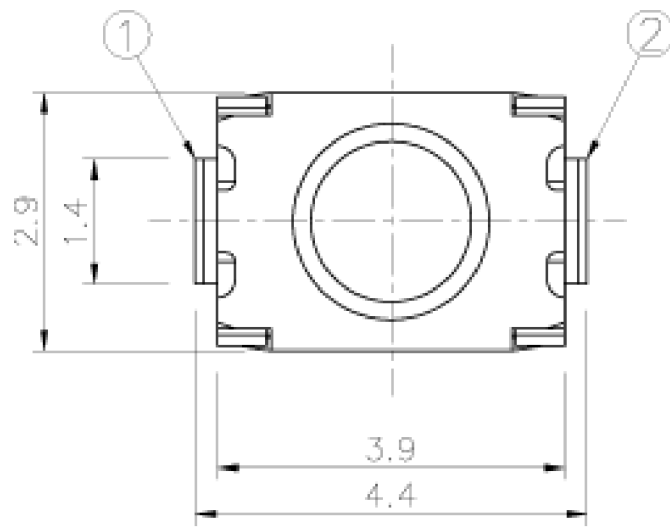
How to order

SS302	BF	16
Terminal/post type		Operating force
GF		16
BF		24
GJ		160g
BJ		240g

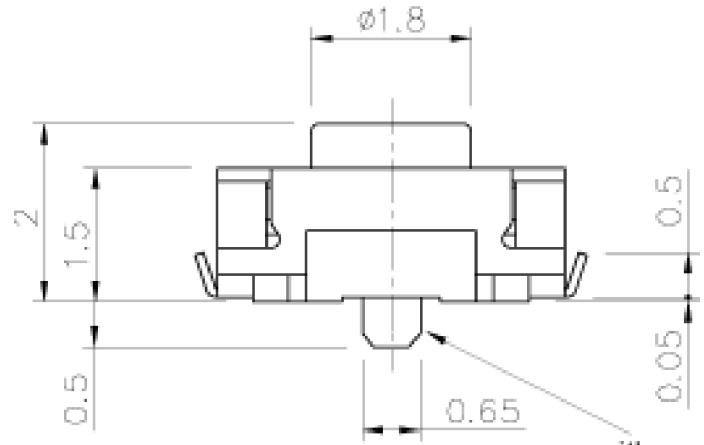
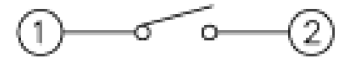
SS302•F

Circuit diagram

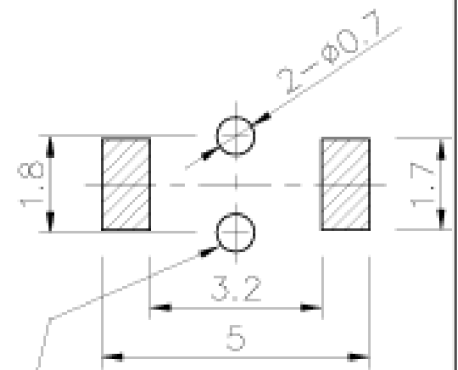
SS302•J



Circuit diagram



with or without post



P.C.B. Mounting

SS304 SERIES

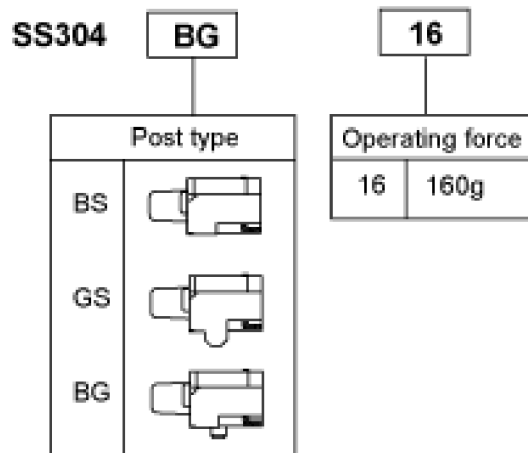
SUPER MINIATURE TACT SWITCH; up to 50mA 12VDC
Surface Mount side-push type, 4.5mm X 2.3mmX1.7mm



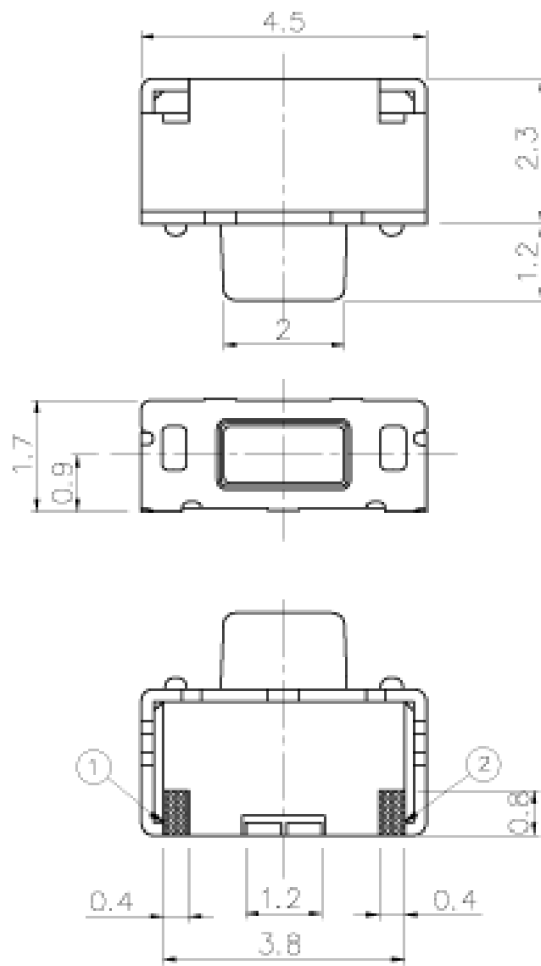
i@

- Rating: 50mA 12VDC
- Action: SPST, push on
- Initial contact resistance : 100m ohm (max.)
- Insulation resistance : 100M ohm (min,) at 100VDC
- Dielectric strength : 100VAC for 1 minute
- Life : 100,000 cycles
- Operating force: 160gf+/-50
- Operating Temperature: -20 ϕ J ~ + 70 ϕ J (45%~85%RH)
- Case: L.C.P
- Knob : Nylon
- Cover: SPTE
- Contact : Stainless steel
- Terminals: brass
- Applications: Communication and Electronic apparatus. Cell phone, PDA equipments, MP3P/ digital audio set, Operating signal input switches etc.
- Packaging: Tape & reel, 3500 PCs/Reel

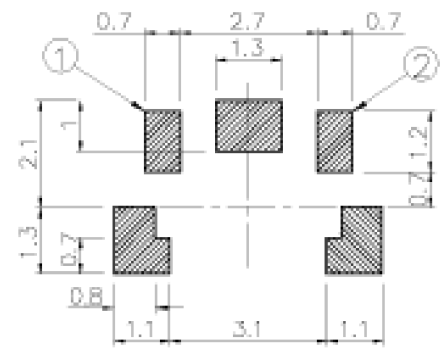
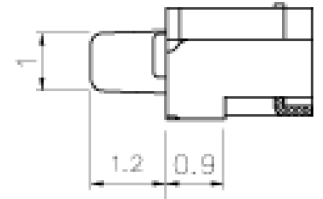
How to order



SS304BS

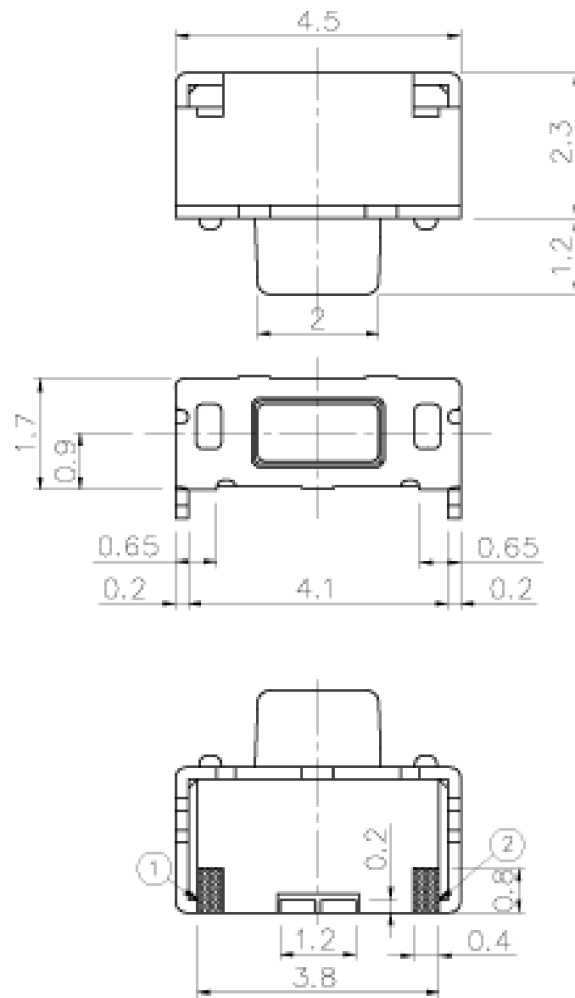


Circuit diagram

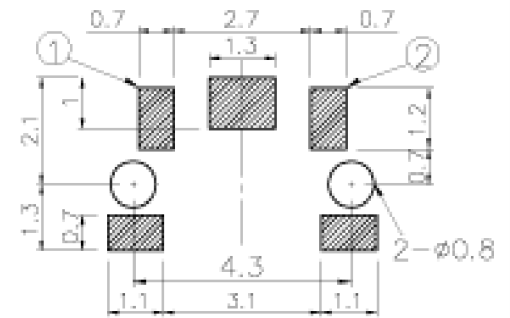
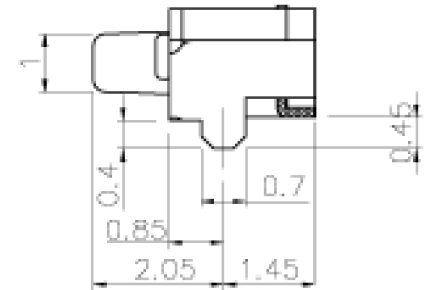


P.C.B layout

SS304GS

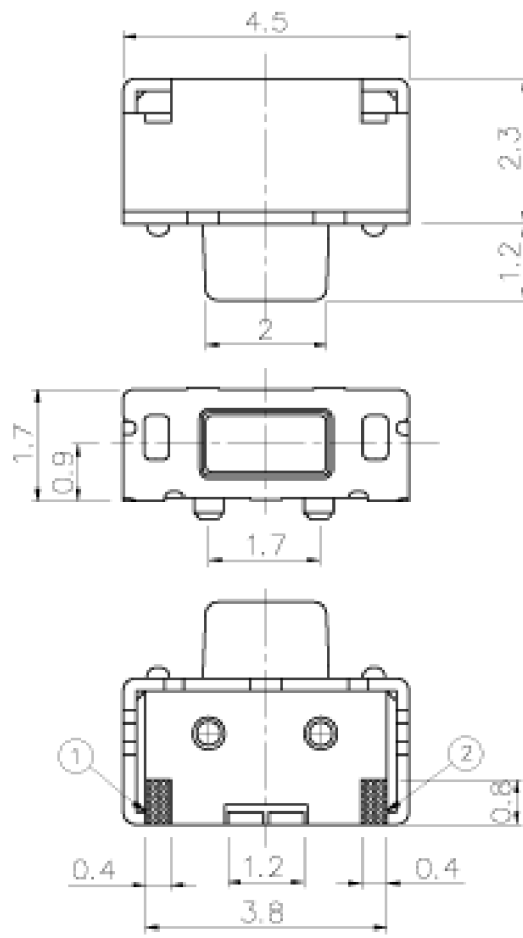


Circuit diagram

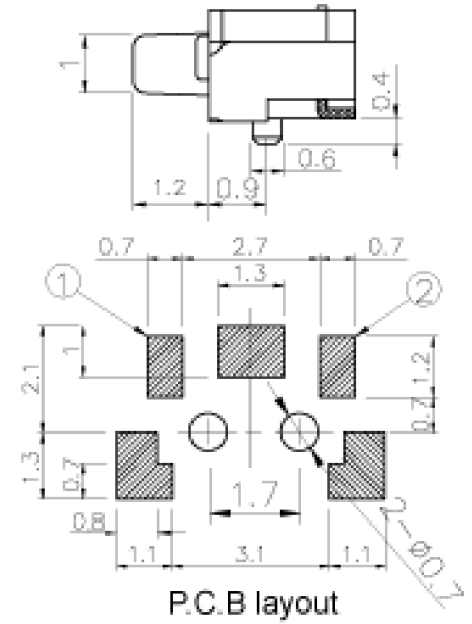


P.C.B Layout

SS304BG



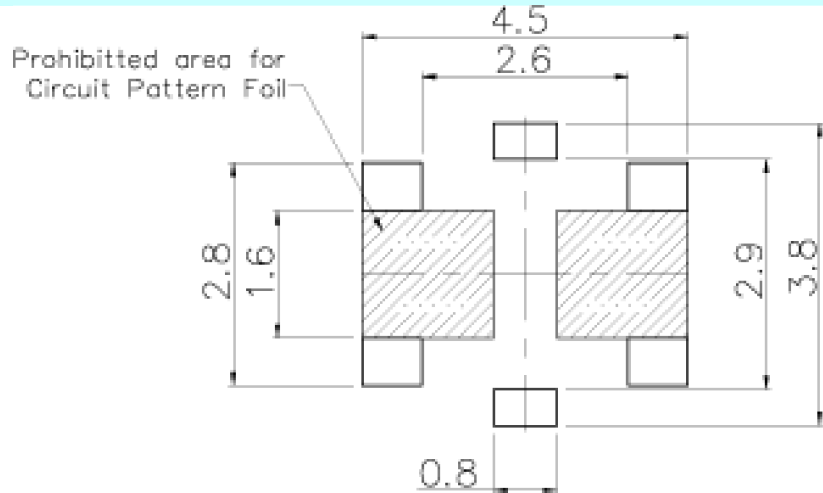
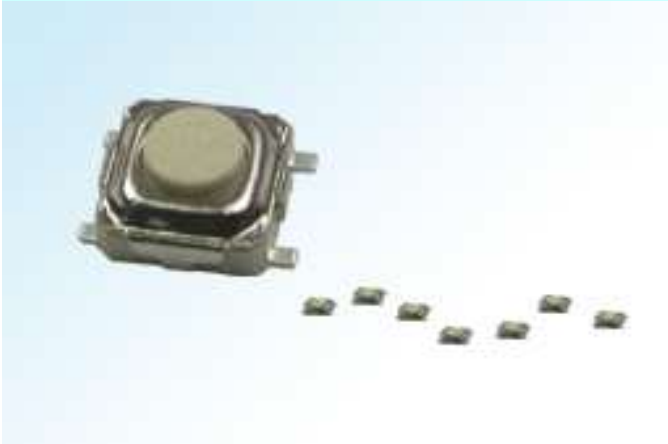
Circuit diagram



P.C.B layout

SS307 SERIES

SUPER MINIATURE TACT SWITCHES; UP TO 50mA 12VDC
SMT; With or Without Knob, 3.3mm X 3.3mm



- Rating: 50mA 12VDC
- Action: SPST, push on
- Initial contact resistance : 100m ohm (max.)
- Insulation resistance : 100M ohm (min,) at 100VDC
- Dielectric strength : 100VAC for 1 minute
- Electrical life : 100,000 cycles
- Operating force: 160gf+/-50; 240gf+/-50

- Surface mount type
- Body size: 3.3x3.3mm and 1.5mm height
- SPST, PUSH ON
- With or without knob, Flat SMD terminals
- Reel Package
- Packaging: Tape & reel, 4000 PCs/Reel

How to order

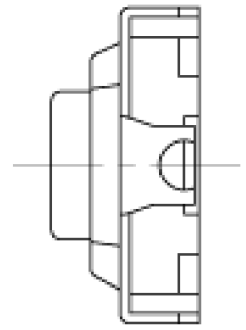
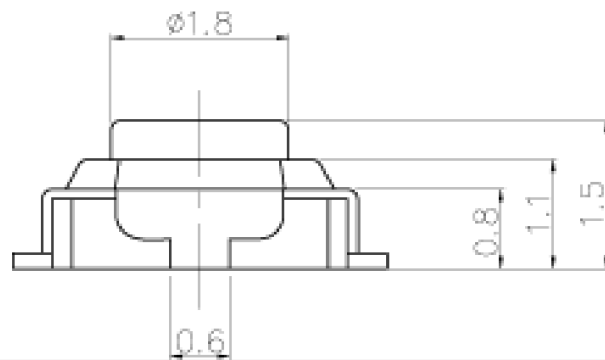
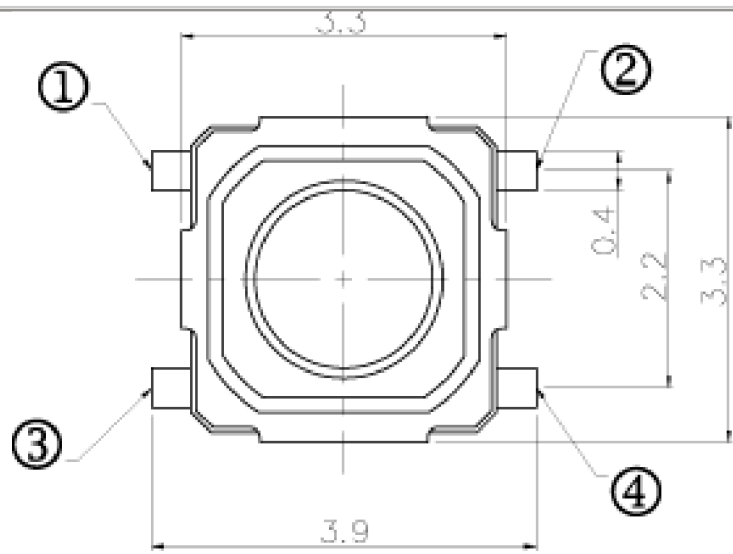
SS307

KF

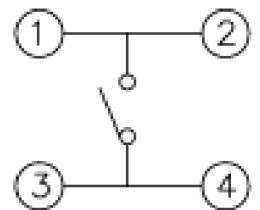
16

Series Symbol	Knob type	Operating force
	KF w/ Knob	16 160g
	PF w/o Knob	24 240g

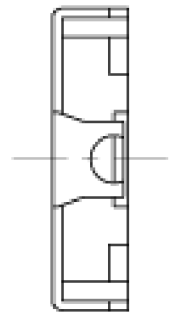
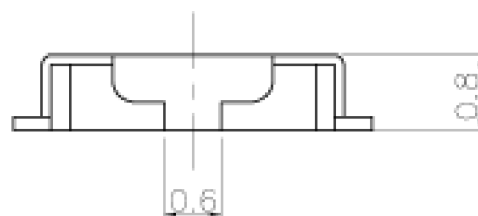
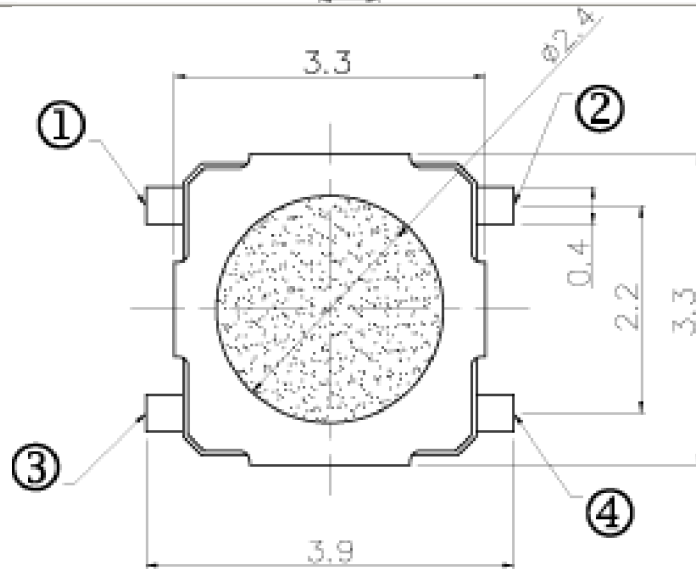
SS307KF
(w/ Knob)



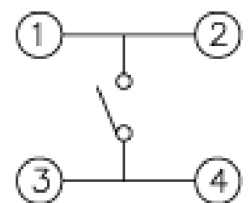
Circuit diagram







SS307PF
(w/o Knob)



Circuit diagram

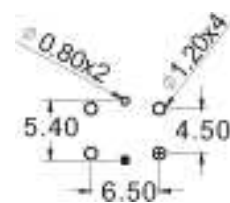




●●		●●●	●●
TS		PCB	●●LED●, 10x10mm●●/Dia.10mm●●●●
SPL12P		PCB	12x12mm, ●●●/ ●●●
PB86		PCB	●●●● LED●
SPA		PCB	●●LED●, ●●●●●●

TS2 SERIES

ILLUMINATED TACT SWITCHES UP TO 12VDC 50mA, LED LIGHT
SMD type available; Round or Square Housing, 6X6mm body



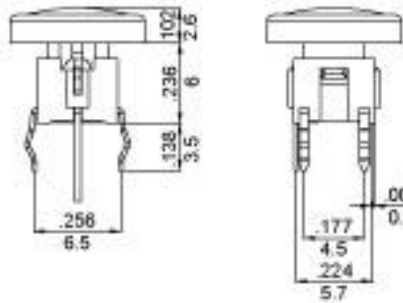
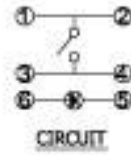
PCB Mounting Hole

- Rating: 12VDC, 50mA
- Initial contact resistance : 50m Ohm max.
- Insulation resistance : 100M min, at 250VDC
- Dielectric strength : 250 VAC for 1 minute
- Temperature range : -20 to +70 degrees in celsius
- Switch life: 100,000 cycles minimum

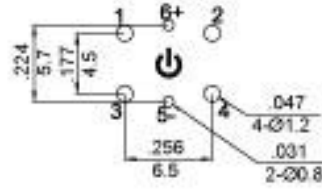
i@

How-to-Order

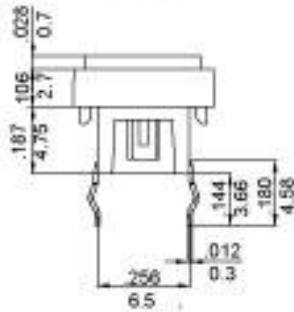
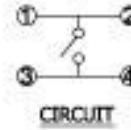
TS2	0	0	0	0	N	X
SERIES SYMBOL	HOUSING TYPE	HOUSING COLOR	CAP TYPE	CAP COLOR	LED COLOR	SUFFIXES
TS2 SERIES	0 NO HOUSING 1 SQUARE 2 ROUND	0 NO HOUSING B BLACK A GRAY	0 NO CAP 1 2 3 4 5	0 NO CAP W WHITE R RED G GREEN B BLACK A GRAY Y YELLOW T TRANSPARENCY O ORANGE	N NO LED R RED G GREEN Y YELLOW U BLUE W WHITE R/G RED/GREEN R/U RED/ BLUE	BLANK NUMBER OR LETTERS



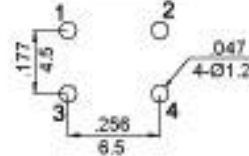
P.C.B. LAYOUT



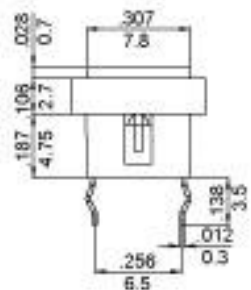
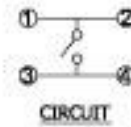
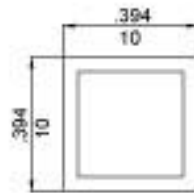
TS2-00-5AU-1A



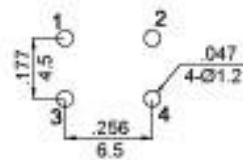
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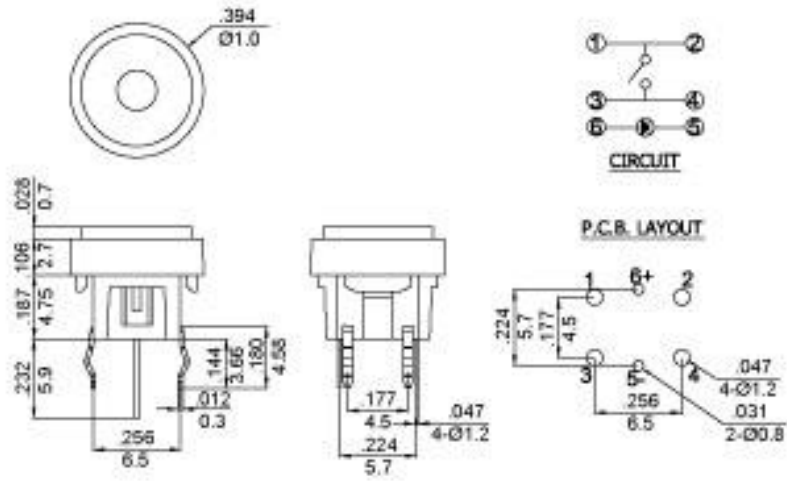
TS2-2B-3TN



P.C.B. LAYOUT



TS2-1B-1RN

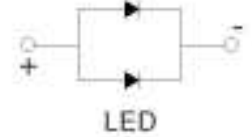
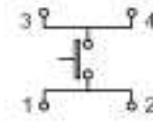
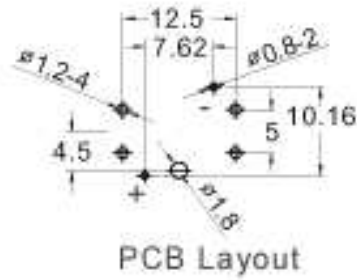
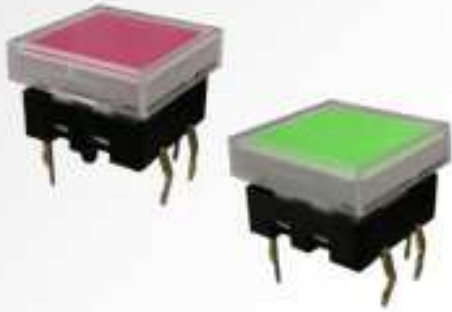


TS2-2B-4YR

SPL12P SERIES

ILLUMINATED TACT SWITCHES UP TO 12VDC 50mA

Square Body, 12x12mm, SPST



- Rating: 12VDC, 50mA
- Initial contact resistance : 50m Ohm max.
- Insulation resistance : 100M min, at 250VDC
- Dielectric strength : 250 VAC for 1 minute
- Temperature range : -10 to +60 degrees in celsius
- Operating force: 250gf +/- 50
- Switch life: 100,000 cycles
- LED: 40mA 3VDC
- Housing: Nylon
- Cap: PC
- Contacts: PBS+AU
- Terminals: PBS+AU

How to Order

SPL12P

3

02

FC

SERIES SYMBOL

CAP COLORS

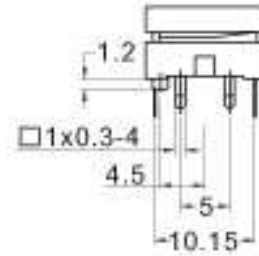
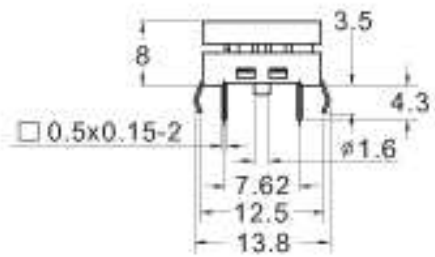
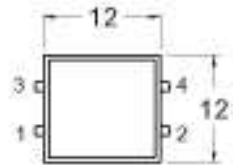
- 1 RED
- 2 YELLOW
- 3 GREEN
- 4 WHITE
- 5 TRANSPARENT
- 6 ORANGE
- 7 BLUE

LED COLORS

- 00 NO LED
- 01 RED
- 02 YELLOW
- 03 GREEN
- 04 WHITE
- 07S BLUE

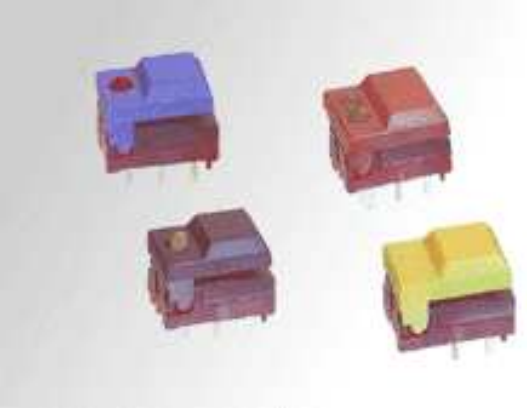
TRANSPAREN COVER

- 00 WITHOUT COVER
- FC FLAT COVER
- RC ROUND COVER
- SC SQUARE COVER



PB-86 SERIES

DIP MOMENTARY PUSH BUTTON SWITCHES UP 24VDC, 12mA
Illuminated or Non-illuminated, Single or Twin LED, SPDT



Rating:

- Rating: 24VDC, 12mA
- Initial contact resistance: 50m Ohm max.
- Insulation resistance: 100M min
- Dielectric strength: 250VAC for 1 minute

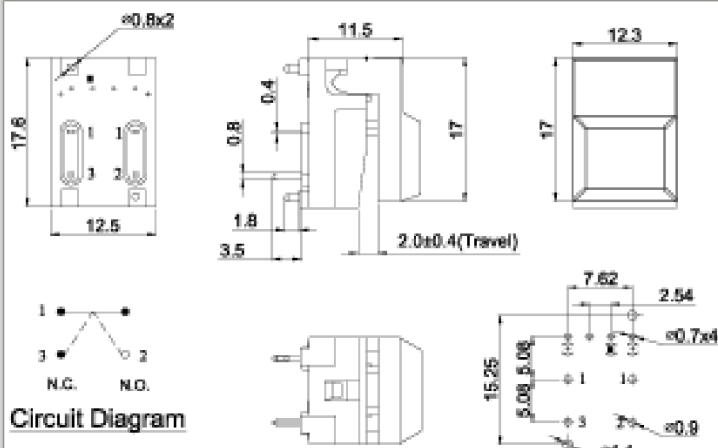
Feature:

- SPST, push on
- Small or large cap
- One or twin len windows
- Optional LED and cap color
- PCB mounting

How to order**PB86 SERIES MODEL NUMBER DESIGNATION SYSTEM**

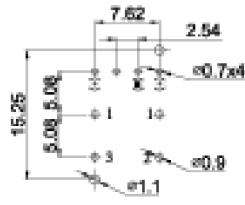
PB86	A0	B	NN	1	0
SERIES SYMBOL	FRAME COLOR	CAP STYPE	FUNCTION	SPECIAL-led pin	MARKING
	SMALL CAP A0 NO LED A1 1 LED A2 2 LEDS LARGE CAP B0 NO LED B1 1 LED B2 2 LEDS SMALL CAP -transparent C0 NO LED C1 1 LED C2 2 LEDS LARGE CAP -transparent D0 NO LED D1 1 LED D2 2 LEDS	W WHITE R RED Y YELLOW G GREEN B BLACK U BLUE A GRAY O ORANGE T TRANSPARENT	NN NONE LED ONE LED NR RED NY YELLOW NG GREEN TWO LED LEFT RIGHT RR RED RED RY RED YELLOW RG RED GREEN YR YELLOW RED YY YELLOW YELLOW YG YELLOW GREEN GR GREEN RED GY GREEN YELLOW GG GREEN GREEN	0 NON LED ONE LED 1 ■ + - ■ (std.) 2 ■ - + ■ TWO LED 3 + - + - (std.) 4 - + - + 5 + - - + 6 - + + -	0 NONE 1 MENU 2 UP 3 DOWN 5 ENT 6 ESC

Dimension:

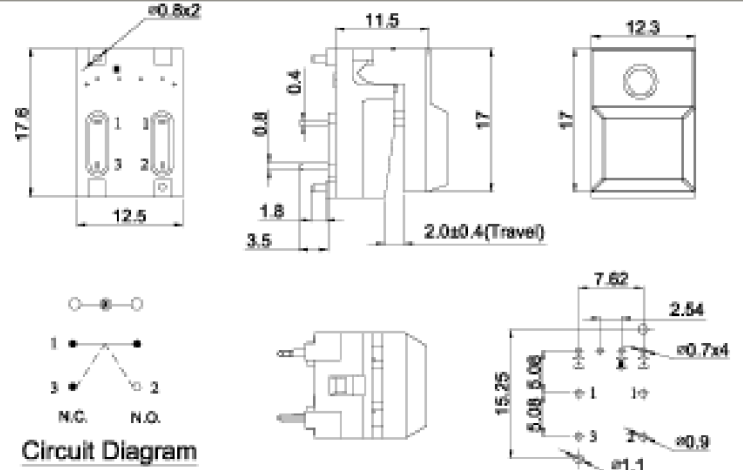


Circuit Diagram

PB86-A0-R-NN

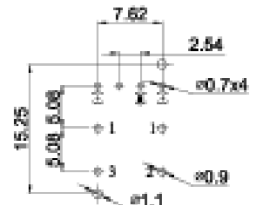


P.C.B . Layout

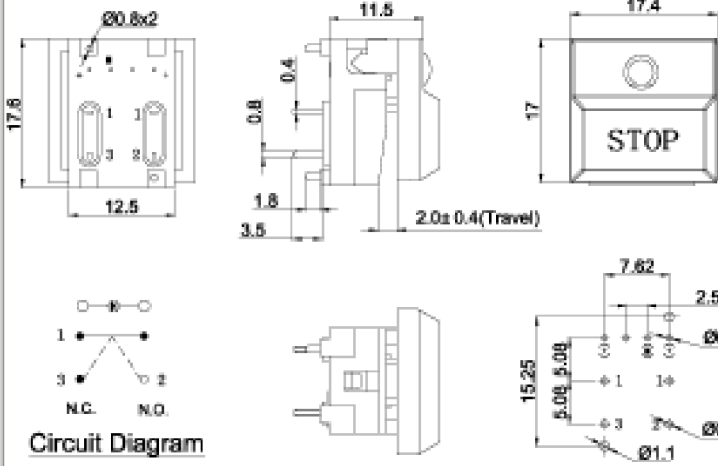


Circuit Diagram

PB86-A1-R-NR

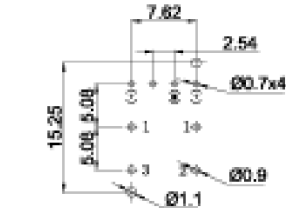


P.C.B . Layout

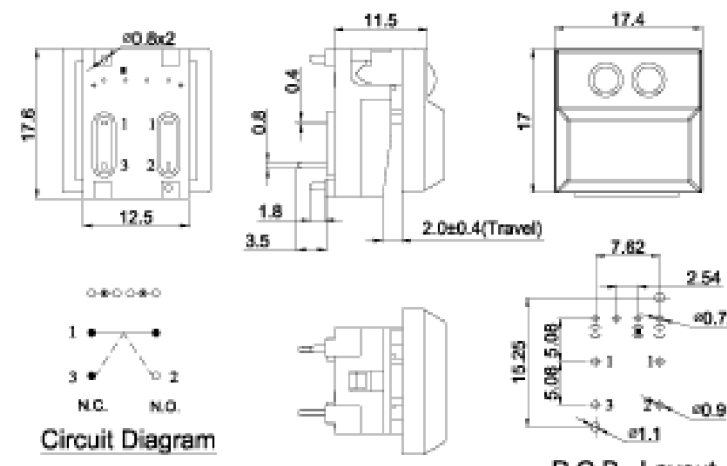


Circuit Diagram

PB86-B1-W-NR

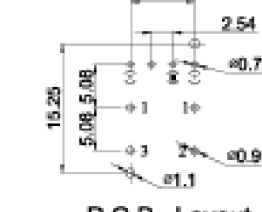


P.C.B . Layout



Circuit Diagram

PB86-B2-O-RG



P.C.B . Layout

SPA SERIES

ILLUMINATED PUSH SWITCHES UP TO 30VDC 100mA/ 12VDC 50mA

One or Twin Led for option, round & square type



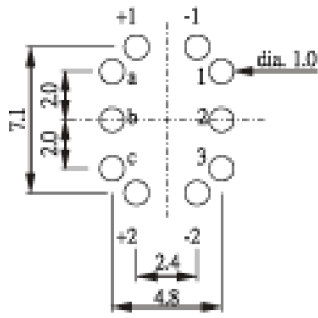
- Rating: SPB-A/M 30VDC, 100mA
SPB-T 12VDC, 50mA
- Initial contact resistance : 100m Ohm max.
- Insulation resistance : 100M min
- Dielectric strength : 250 VAC for 1 minute
- Temperature range : -10 to +65 degrees in celsius
- Operating force: SPB-A/M 200gf +/- 80; SPB-T 180gf +/- 50
- Life: SPB-A/M 10,000 cycles
SPB-T 800,000 cycles
- LED: 20mA 5V
- Button: POM
- Housing/ Base: Nylon
- Cap: ABS
- Diffuser: PC
- Spring: Piano Wire
- Contacts:
SPB-A/M Phosphor bronze w/ silver plating
SPB-T Stainless steel w/silver plating
- Terminals: Brass, gold plated

i@

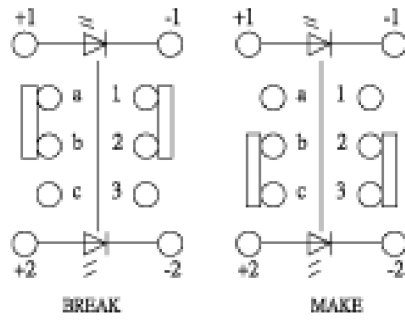
How-to-Order

SPA		T		SA		2V12			12				
Function				Housing				Len colors			Led colors		
T	Tactile			SA	Round	No.	Up	Down	No.	Up	Down		
M	Momentary	CA	Square	2V12	Red	Yellow	12	Red	Yellow				
A	Alternate			2V13	Red	Green	13	Red	Green				
				2V14	Red	White	1P3	Red	Pure green				
				2V23	Yellow	Green	14	Red	White				
				2V24	Yellow	White	17	Red	Blue				
				2V34	Green	White	23	Yellow	Green				
				2V44	White	White	2P3	Yellow	Pure green				
				Cover colors			24	Yellow	White				
				CV04	White		27	Yellow	Blue				
				CV05	Black		3P3	Green	Pure green				
							34	Green	White				
							37	Green	Blue				
							P34	Pure green	White				
							P37	Pure green	Blue				
							47	White	Blue				

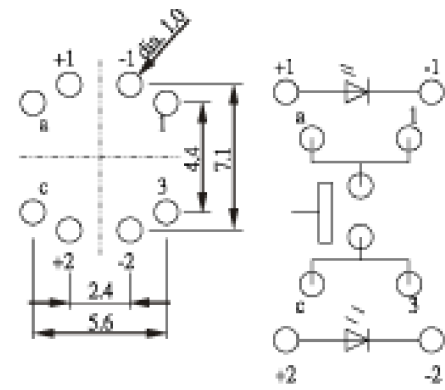
2V Type	
CV Type	



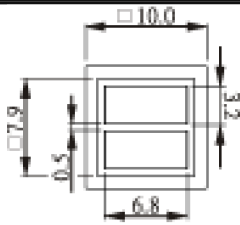
SPA-A & SPA-M
PCB LAYOUT



SPA-A & SPA-M
CIRCUIT



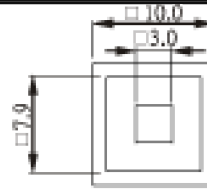
SPA-T PCB LAYOUT SPA-T CIRCUIT



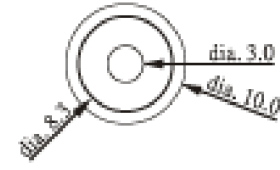
SPA-CA-2V



SPA-SA-2V

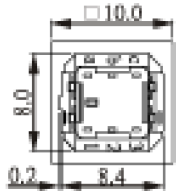
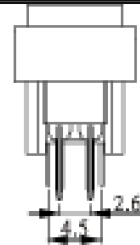
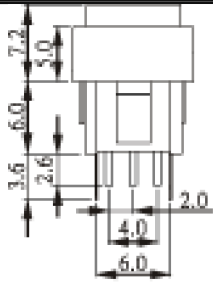


SPA-CA-CV



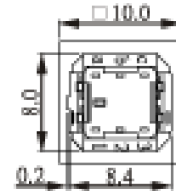
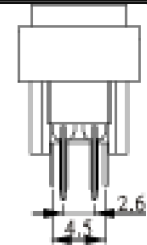
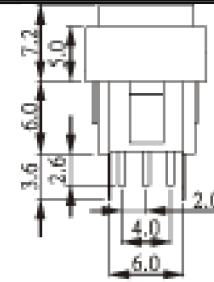
SPA-SA-CV

i@



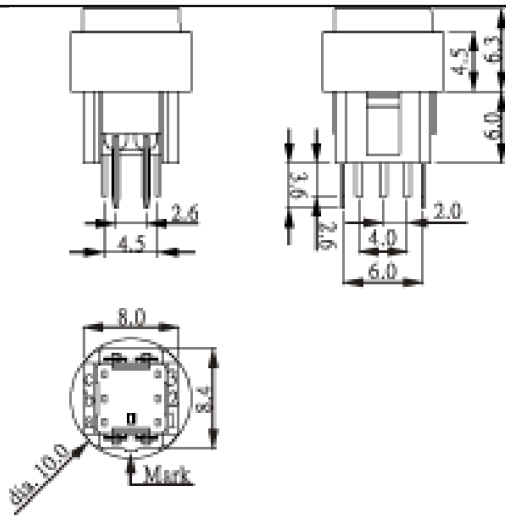
SPA-A-CA and SPA-M-CA

i@



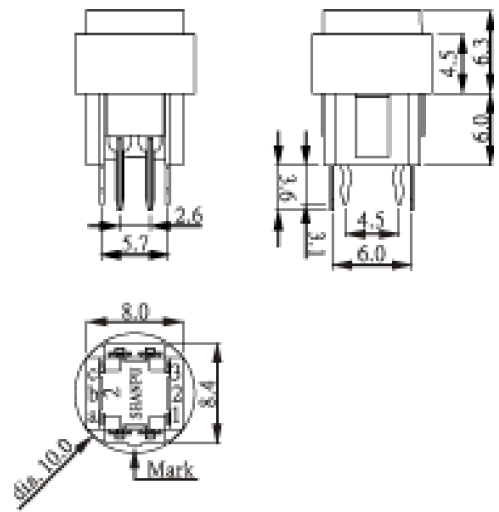
SPA-A-CA and SPA-M-CA

i@



SPA-A-SA and SPA-M-SA

i@



SPA-T-SA

i@



••		••••	••
NS102		12Ø, nut	SPST ••••
S106, 116		12Ø, nut	••••, ••200••••••, SPST, SPDT
S1096		12Ø, nut	SPST ••••, 20••••••
S215, S216		19Ø, nut	••••, 4A 125VAC, ••••
S236		19Ø, nut	••••, 4A 125VAC
S286A, S286B		19Ø, nut	4A 125Vac, DPST, ••150 ••••••

NS102, keylock switches up to 1A 125VAC



- Housing: zinc alloy die cast, chrome plated.
- Zinc alloy keys, chrome plated.
- Silver plated contacts and terminals.
- 2 Positions (off-on) 2 Terminals.
- 1 Combination available.
- Contact rating : 1A 125VAC, 0.5A 250VAC.
- Contact resistance : 10 m ohm max.
- Insulation resistance : 200 M ohm min. (500VDC)
- Dielectric strength : 1,000 VAC-1 minute.

KEY-PULL FIGURES :

- -Off position
- | -Indicates Key-Pull
- -Indicates No Key-Pull

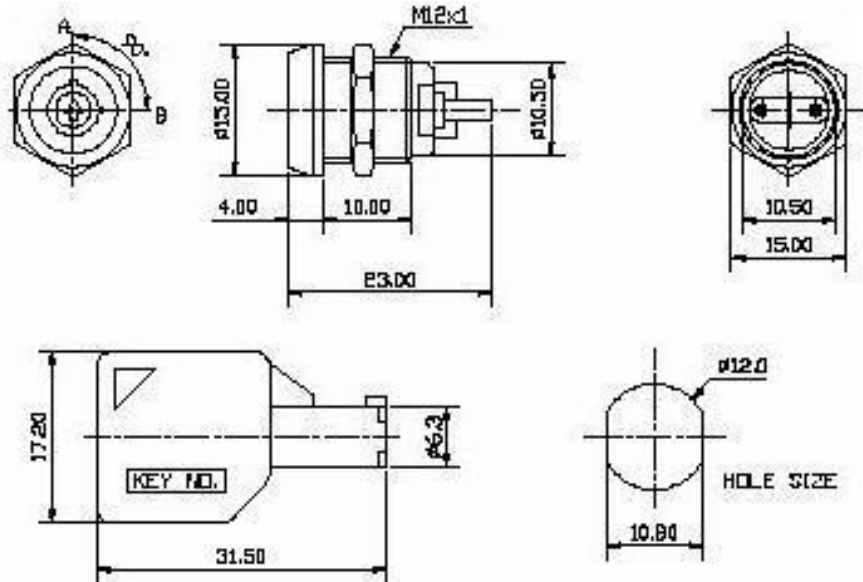
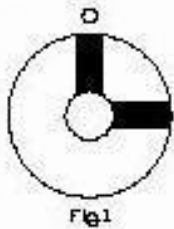


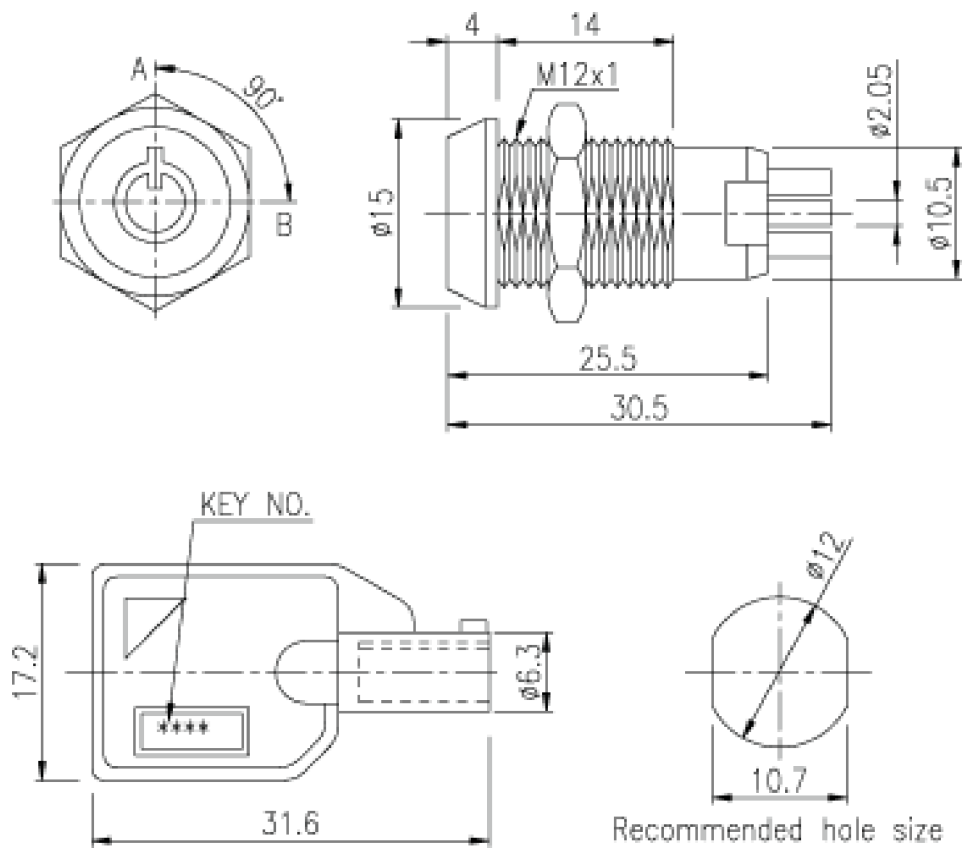
Fig. No.	Lock Number	Pole	Positions	Terminals	Key Pulls	Turn	↑	→	Type
1	NS102-2	1	2	2	2	90	Off	On	SPST

S106, S116 keylock switches up to 200 variations, SPST, SPDT

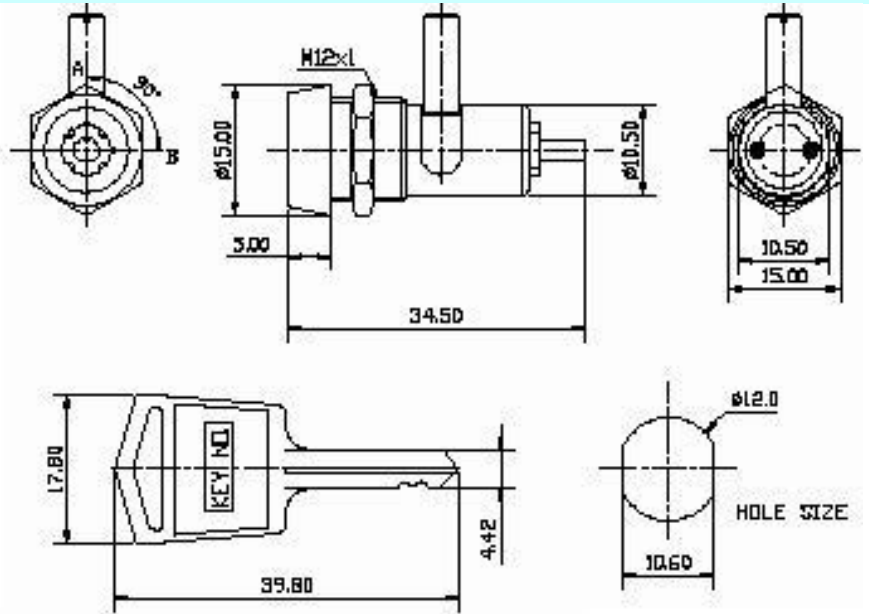


- 200 Combinations available.
- 1A 125VAC, 0.5A 250VAC.
- Contact resistance : 10 m ohm max.
- Insulation resistance : 200 M ohm min. (500VDC)
- Dielectric strength : 1,000 VAC-1 minute.
- Housing: zinc alloy die cast, chrome plated.
- Zinc alloy keys, chrome plated with plastic cover.
- Silver plated contacts and terminals.
- 4 pins tumbler mechanism.
- S106 2 Positions (off-on) 2 Terminals.
- S106 2 Positions (on-on) 4 Terminals.
- S106M 2 positions (off-on) spring loaded for momentary contact.

Model	Pin Q'ty	Key pulls	Turn	↑	→
S106-1	2	1 ↑	90 degrees	Off	On
S106-2	2	2 ↑ →	90 degrees	Off	On
S116-1	4	1 ↑	90 degrees	On	On
S116-2	4	2 ↑ →	90 degrees	On	On
S106M	2	1 ↑	90 degrees	Off	(On)



S1096 SERIES, keylock switches up to 20 variations, L shaped lever



- 2 Positions (off-on).
- L-shape lever length customized, 13mm is standard.
- 20 Combinations available.
- 1A 125VAC, 0.5A 250VAC.
- Contact resistance : 10m ohm max.
- Insulation resistance : 200 M. ohm min. (500VDC)

- Dielectric strength : 1,000 VAC for 1 minute.
- Housing: zinc alloy die cast housing with bright stainless steel bezel.
- Key: brass key, nickel plated
- Silver plated contacts and terminals.

KEY-PULL FIGURES :

- -Off position
- | -Indicates Key-Pull
- -Indicates No Key-Pull

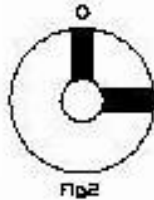
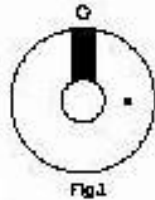
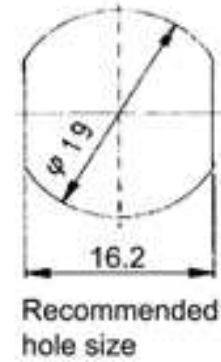


Fig. No.	Lock Number	Pole	Positions	Terminals	Key Pulls	Turn	↑	→	Type
1	S1096-1	1	2	2	1	90.	Off	On	SPST
2	S1096-2	1	2	2	2	90.	Off	On	SPST

S215, S216 key lock switches, 4A 125VAC, DPST, 150 Combinations



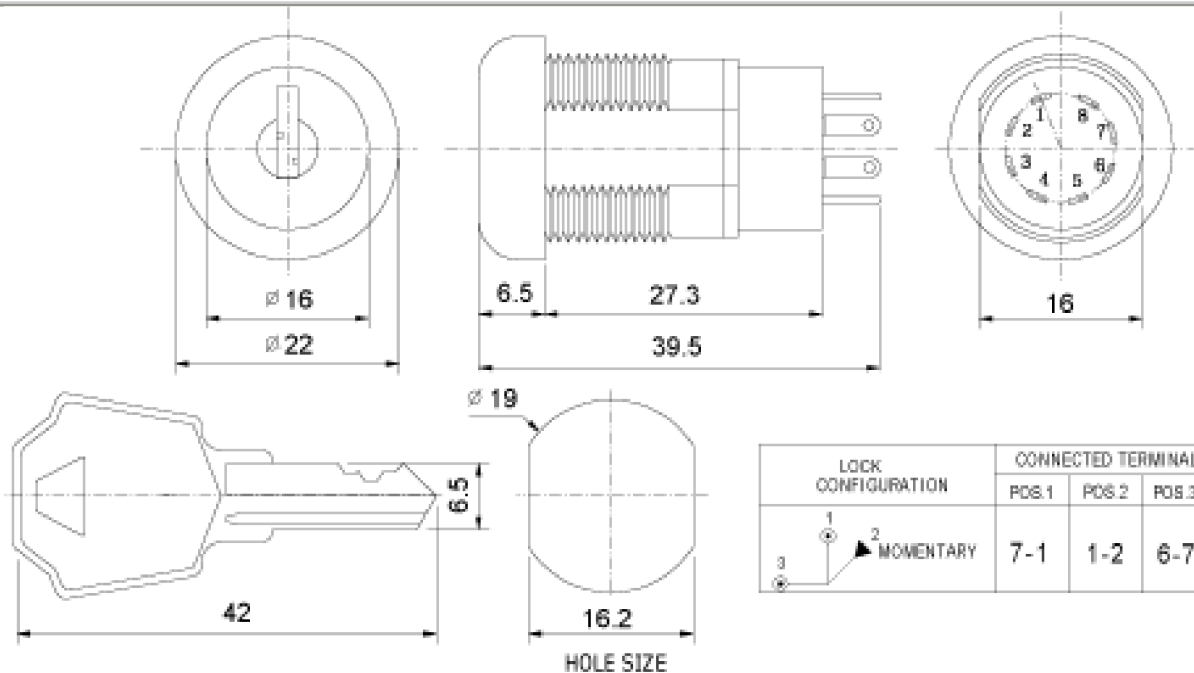
- Contact Rating: 4A 125VAC, 2A 250VAC, 4A 28VDC (UL/CUL)
- Contact Resistance: 10Mini-Ohms Max
- Insulation Resistance: 500 Meg Ohms Min, (500VDC)
- Dielectric strength: 1500VAC-1 Minute

- Lock: Bright nickel plated zinc alloy with nickel facing
- Tumbler mechanism: 4-disc tumbler cylinder
- Keys: Brass with code no.
- Contacts: Golden plated cu (Q contact material)
- Terminals: Golden plated cu (Q contact material)

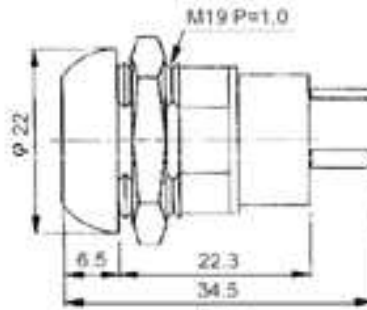
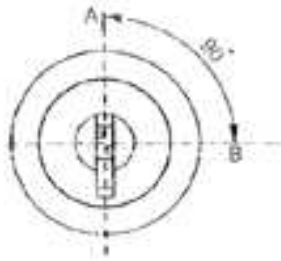
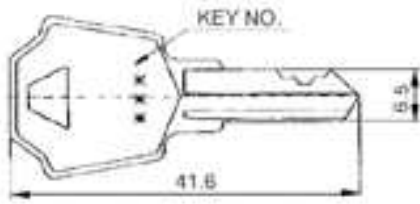
[S215 Function list](#)

[S216 Function list](#)

S215G-SP



S216R-SP



- Detent position
- ⊙ Detent and Pull position
- ▼ Detent and momentary position

Key Way	Pos. Angle	No.	Pole	POS.1	POS.2	POS.3
	45 degrees	A	SP	(8,1)	(1, 2)	
		B	DP	(8,1) (4, 5)	(1, 2) (5, 6)	
	45 degrees	C	SP	(8,1)	(7, 8)	
		D	DP	(8,1) (4, 5)	(7, 8) (3, 4)	
	45 degrees	E	SP	(8,1)	(1, 2)	(7, 8)
		F	DP	(8,1) (4, 5)	(1, 2) (5, 6)	(7, 8) (3, 4)
	45 / 90 degrees	G	SP	(7,1)	(1, 2)	(6, 7)
	45 / 90 degrees	I	SP	(8,1)	(7, 8)	(1, 3)
	45 degrees	I	SP	(8,1)	(1, 2)	(7, 8)
		J	DP	(8,1) (4, 5)	(1, 2) (5, 6)	(7, 8) (3, 4)
	45 degrees	K	SP	(8,1)	(7, 8)	(1, 2)
		L	DP	(8,1) (4, 5)	(7, 8) (3, 4)	(1, 2) (5, 6)

● Detent position

⊙ Detent and Pull position

Key Way	Pos. Angle	No.	Pole	POS.1	POS.2	POS.3
	45 degrees	A	SP	(8,1)	(1, 2)	(2, 3)
		B	DP	(8,1) (4, 5)	(1, 2) (5, 6)	(2, 3) (6, 7)
	45 degrees	C	SP	(8,1)	(1, 2)	(2, 3)
		D	DP	(8,1) (4, 5)	(1, 2) (5, 6)	(2, 3) (6, 7)
	45 degrees	E	SP	(8,1)	(1, 2)	(2, 3)
		F	DP	(8,1) (4, 5)	(1, 2) (5, 6)	(2, 3) (6, 7)
	45 degrees	G	SP	(8,1)	(1, 2)	(7, 8)
		H	DP	(8,1) (4, 5)	(1, 2) (5, 6)	(7, 8) (3, 4)
	45 degrees	I	SP	(8,1)	(1, 2)	(7, 8)
		J	DP	(8,1) (4, 5)	(1, 2) (5, 6)	(7, 8) (3, 4)
	90 degrees	N	SP	(8,1)	(1, 3)	
		O	DP	(8,1) (4, 5)	(1, 3) (5, 7)	
	90 degrees	P	SP	(8,1)	(1, 3)	
		Q	DP	(8,1) (4, 5)	(1, 3) (5, 7)	
	90 degrees	R	SP	(8,1)	(1, 3)	
		S	DP	(8,1) (4, 5)	(1, 3) (5, 7)	
	90 degrees	BI	SP	(7, 1)	(1, 3)	(6, 7)
	90 degrees	CI	SP	(7, 1)	(1, 3)	(6, 7)
	90 degrees	DI	SP	(7, 1)	(1, 3)	(6, 7)

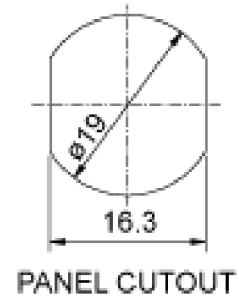
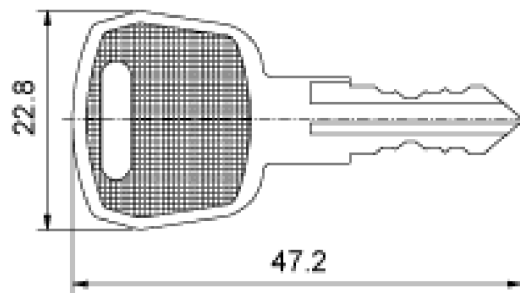
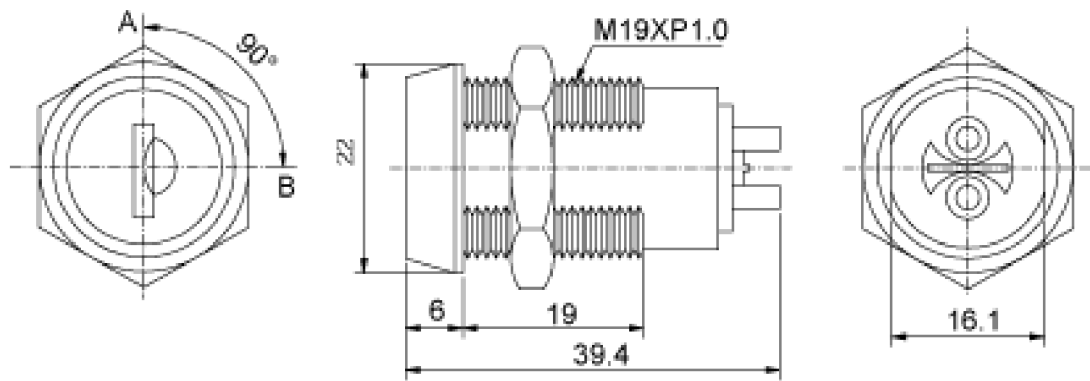
S236 SERIES

Keylock switches up to 25 key combinations, 4A 125vac, 2A 250Vac

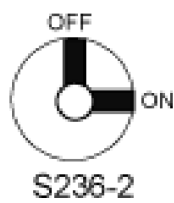


- Contact Rating: 4A 125VAC, 2A 250VAC
- Contact resistance: 10 m ohms max.
- Insulation resistance: 500 M ohms Min. (500VDC)
- Dielectric Strength: 1500VAC- 1 minute
- Zinc alloy die cast housing and cylinder
- Bright chrome plated standard
- Dust shutter mechanism
- 5 disc tumbler mechanism
- Reversible double-bitted brass keys, nickel plated
- key withdrawls in both positions only
- silver plated contact and terminals
- 2 positions, OFF-ON or ON-ON positions
- Hex Nut mounted
- The same key or 25 combinations standard.
- M19XP1.0

S236-2



P/N	Pole	Positions	Terminal	Key pulls	Turn	↑	→	Throw
S236-2	1	2	2	2	90°	off	on	SPST
S236-3C-2	1	2	3	2	90°	on	on	SPDT



KEY PULL

S286A, S286B key lock switches, 4A 125Vac, DPST, 150 Combinations



KEY-PULL FIGURES:

○ -Off position

| -Indicates Key-Pull

• -Indicates No Key-Pull



Fig 1



Fig 2



Fig 3



Fig 4

- S286A 2 Positions (off-on) 4 Terminals. (2NO.2NC)
- S286B 2 Positions (on-on) 4 Terminals. (1NO.1NC)
- 150 Combinations available.
- Contact rating : 4A 125VAC, 2A 250VAC.
- Contact resistance : 10 m ohm max.
- Insulation resistance : 500 M ohm min. (500VDC)
- Dielectric strength : 1,500 VAC-1 minute.

- Housing: zinc alloy die cast, chrome plated.
- 5-Disk tumblers mechanism.
- Reversible double cut key brass made nickel plated.
- Silver plated contacts and terminals.

Fig. No.	Lock Number	Pole	Positions	Terminals	Key Pulls	Tum	↑	→	Type
1	S286A-1	2	2	4	1	90°	Off	On	DPST
2	S286A-2	2	2	4	2	90°	Off	On	DPST
3	S286B-1	1	2	4	1	90°	On	On	SPDT
4	S286B-2	1	2	4	2	90°	On	On	SPDT

S286A (2ND 2NC)

S286B (1ND 1NC)

A Position

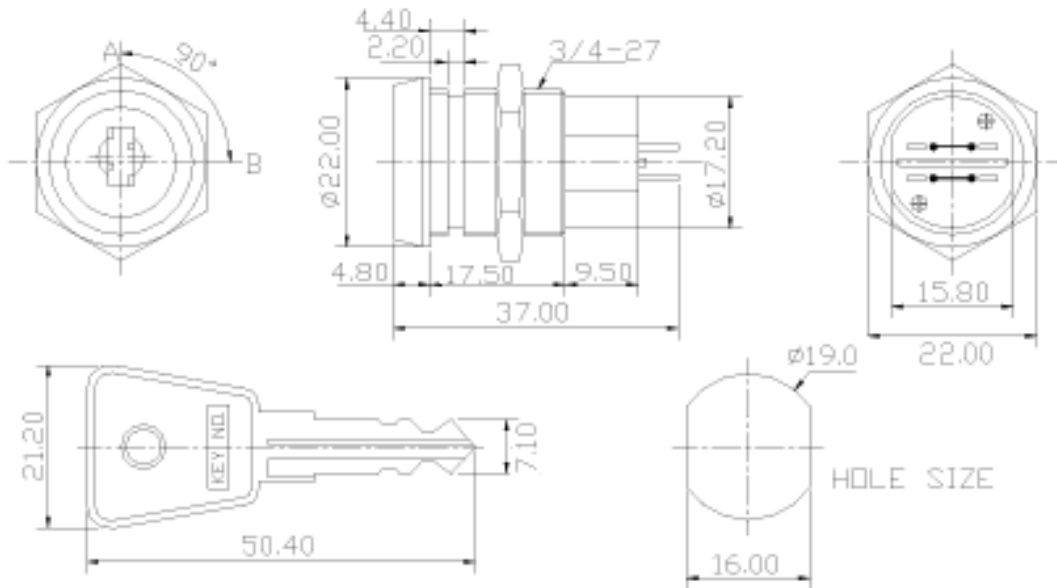
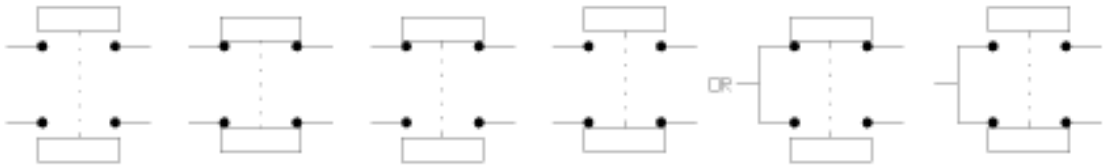
B Position

A Position

B Position

A Position

B Position





••

••

••

[PBM12](#)



M12 0.5A 48VDC, •••

[PBM16](#)



M16 2A 36VDC, •••••

[PBM19](#)



M19 5A 250VAC, •••••

[PBM22](#)



M22 5A 250VAC, •••••

• •

• •

PBM12 SERIES

Anti-Vandal Pushbutton Switches, Bushing M12, Short Body



PBM12-11M-RR-
NNN-A6-S



PBM12-11M-RB-
NNN-A6-S



PBM12-11M-RG-
NNN-A6-S



PBM12-11M-RS-
NNN-SN-S



PBM12-11M-RU-
NNN-B2-S



PBM12-11M-RY-
NNN-B2-S



PBM12-11M-RW-
NNN-B2-S

Rating:

- Rating: 0.5A 48VDC, 0.2A 50VDC, 0.2A 250VAC
- Contact resistance: 50m Ω (max.) initial
- Insulation resistance: 100M Ω (min)
- Dielectric strength : 1,000VAC for 1 minute
- Operating Life: 200,000 cycles

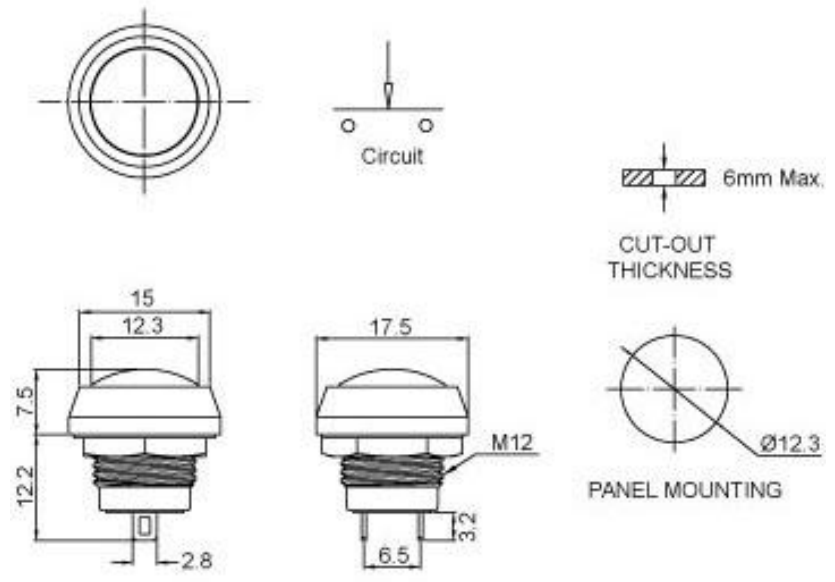
Features

- SPST OFF-(ON); IP65 protection level
- Non-illuminated plastic and metal knob
- M12 bushing, screw mounting
- Aluminum alloy, brass or Stainless steel body material
- Solder terminals

How to Order:

PBM12 — 11M — R R — NNN — A6 — S

SERIES SYMBOL	FUNCTION	BUTTON TYPE	BUTTON COLOR	LAMP	BODY TYPE	TERMINAL
PBM12 SERIES SPST short case	11M SPST OFF - (ON)	R CURVE	W WHITE R RED G GREEN U BLUE Y YELLOW B BLACK S NATURAL (METAL)	NNN WITHOUT LAMP	A6 ALUMINUM ALLOY, BLACK OXIDE B1 BRASS, MIRROR CHROME PLATED B2 BRASS MIRROR NICKEL PLATED SN STAINLESS STEEL	S SOLDER TERMINALS



PBM12-11M-R*-NNN-A6-S

PBM16 SERIES

Anti-Vandal Pushbutton Switches, M16 Bushing, Flat or Raised button



Rating:

- Rating: 2A 36VDC, 2A 48VDC, 3A 250VAC
- Contact resistance: 50m Ω (max.) initial
- Insulation resistance: 100M Ω (min)
- Dielectric strength : 2,000VAC for 1 minute
- Operating Life: 200,000 cycles for non-illuminated type; 50,000 cycles for illuminated type.
- IP65 protection level for short ones, IP67 protection level for long ones

Features

- Non-illuminated, ring or spot illuminated type
- 1, 2 pole circuitry; OFF-(ON), ON-(ON) or ON-ON
- M16 bushing, screw mounting
- Optional case material and surface treatment upon request
- Solder or screw terminals



PBM16-11M-FS-
NNN-S5-S



PBM16-11M-FS-
NNN-B1-S



PBM16-11M-HS-
NNN-B1-S



PBM16-11M-HS-
NNN-S2-S



PBM16-11M-HS-
NNN-S5-S



PBM16-11M-RS-
NNN-B1-S



PBM16-11M-RS-
NNN-S5-S



PBM16-23Z-HS-
NNN-B1-S



PBM16-11M-FS-RU*-SN-S



PBM16-13Z-FS-RG*-SN-S



PBM16-23Z-FS-SR*-SN-S

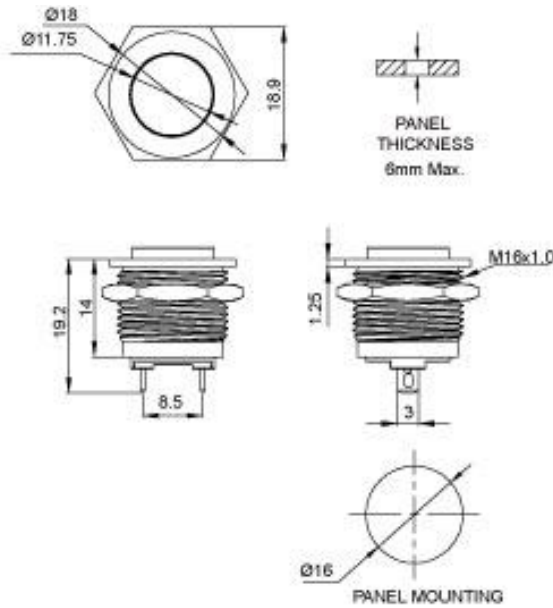


PBM16-23Z-HS-RU*-S5-S

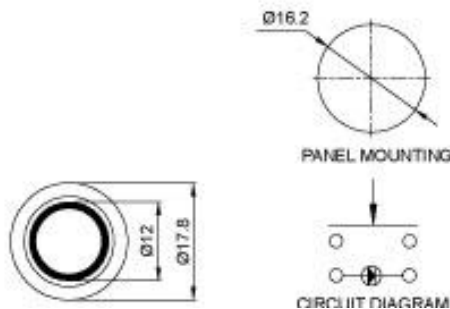
How to Order:

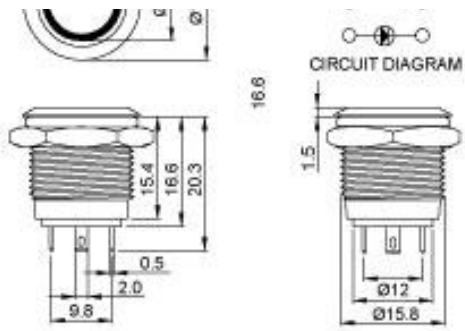
PBM16 — 11M — F — S — S — R — 3 — S — N — S

SERIES SYMBOL	FUNCTION	BUTTON TYPE	BUTTON COLOR	LAMP SHAPE	LED COLOR	LAMP VOLTAGE	BODY TYPE	SURFACE TREATMENT	TERMINAL
PBM16 SERIES	11M SPST OFF - (ON)	R CURVE F FLAT H RAISED	S NATURAL (METAL)	N NON LAMP S SPOT R RING	N NONE W WHITE R RED G GREEN U BLUE Y YELLOW	N NONE 3 3V 6 6V 12 12V 24 24V 110 110V 220 220V	B BRASS	1 MIRROR CHROME PLATED 2 MIRROR NICKEL PLATED 3 MIRROR GOLD PLATED	S SOLDER TERMINALS L SCREW TERMINALS
	13M SPDT ON - (ON)								
	13Z SPDT ON - ON								
	23M DPDT ON-(ON)								
	23Z DPDT ON-ON						S STAINLESS STEEL N NONE	5 CD PATTERN N NONE	

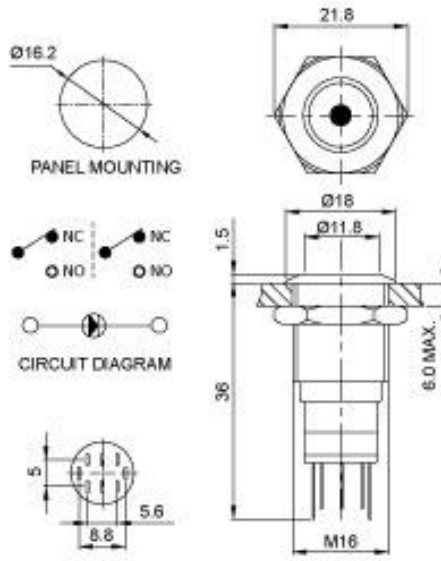


PBM16-11M-HS-NNN-S5-S





PBM16-11M-FS-R**SN-S



PBM16-23Z-S**SN-S

PBM19 SERIES

Anti-Vandal Pushbutton Switches, Bushing M19, up to 5A 250VAC



PBM19-11M-FS-NNN-S5-L



PBM19-11M-RS-NNN-S5-L



PBM19-11M-HS-NNN-SN-L



PBM19-23Z-FS-SG*-SN-S



PBM19-23Z-FS-RR*-SN-S



PMB19-13Z-RS-RU*-SN-S

Rating:

- Rating: 5A 250VAC
- Contact resistance: 50m Ω (max.) initial
- Insulation resistance: 100M Ω (min)
- Dielectric strength : 2,000VAC for 1 minute
- Operating Life: 200,000 cycles for non-illuminated type; 50,000 cycles for illuminated type.

Features

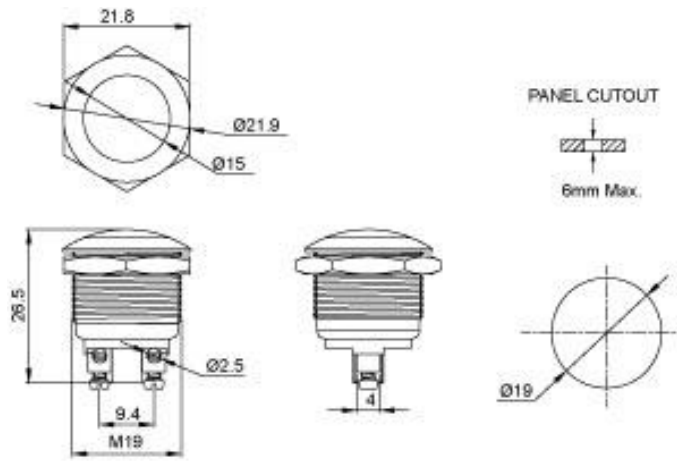
- IP65 protection level for short case, IP67 protection level for long case
- Non-illuminated, ring or spot illuminated type
- 1, 2 pole circuitry; OFF-(ON), ON-(ON) or ON-ON
- M19 bushing, screw mounting
- Optional case material and surface treatment upon request
- Solder or screw terminals

How to Order

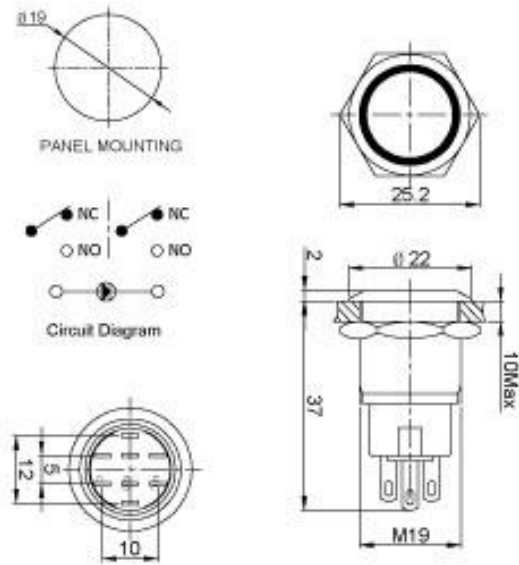
PBM19 — 11M — F — S — N — N — N — S — N — S

SERIES SYMBOL	FUNCTION	BUTTON TYPE	BUTTON COLOR	LAMP SHAPE	LED COLOR	LAMP VOLTAGE	BODY TYPE	SURFACE TREATMENT	TERMINAL
PBM19 SERIES	11M SPST OFF-(ON)	R CURVE F FLAT	S NATURAL (METAL)	N NON LAMP S SPOT R RING	N NONE W WHITE R RED G GREEN U BLUE Y YELLOW	N NONE 3 3V 6 6V 12 12V 24 24V 110 110V 220 220V	B BRASS	1 MIRROR CHROME PLATED 2 MIRROR NICKEL PLATED 3 MIRROR GOLD PLATED	S SOLDER TERMINALS L SCREW TERMINALS
	13M SPDT ON-(ON)	H RAISED							
	13Z SPDT ON-ON								
	23M DPDT ON-(ON)								
	23Z DPDT ON-ON						S STAINLESS STEEL	5 CD PATTERN N NONE	

* Screw terminals for PBM19-11M non-illuminated type only.



PBM19-11M-RS-NNN



PBM19-23Z-FS-R**-SN-S

PBM22 SERIES

Anti-Vandal Pushbutton Switches, Bushing M22, up to 5A 250VAC



PBM22-11M-FS-NNN-SN-S



PBM22-12M-FS-SR*-SN-S



PBM22-12M-FS-RU*-SN-S

Rating:

- Rating: 5A 250VAC
- Contact resistance: 50m Ω (max.) initial
- Insulation resistance: 100M Ω (min)
- Dielectric strength : 2,000VAC for 1 minute
- Operating Life: 200,000 cycles for non-illuminated type; 50,000 cycles for illuminated type.

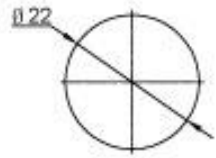
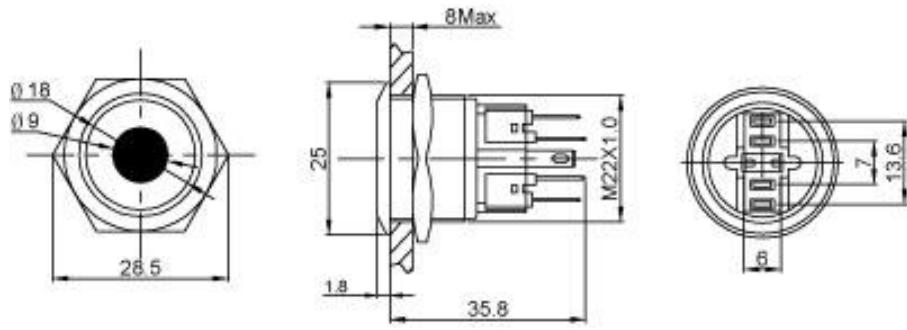
Features

- IP65 protection level
- Non-illuminated, ring or spot illuminated type
- SPDT, ON-(ON)
- M22 bushing, screw mounting
- Optional case material and surface treatment upon request.
- Solder terminals

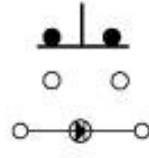
How to Order

PBM22 — 12M — F — S — N — N — N — S — N — S

SERIES SYMBOL	FUNCTION	BUTTON TYPE	BUTTON COLOR	LAMP SHAPE	LED COLOR	LAMP VOLTAGE	BODY TYPE	SURFACE TREATMENT	TERMINAL
PBM22 SERIES	12M SPDT ON - (ON)	*R CURVE F FLAT *H RAISED * NOT AVAILABLE	S NATURAL (METAL)	N NON LAMP S SPOT R RING	N NONE W WHITE R RED G GREEN U BLUE Y YELLOW	N NONE 3 3V 6 6V 12 12V 24 24V 110 110V 220 220V	S STAINLESS STEEL	N NONE S CD PATTERN	S SOLDER TERMINALS



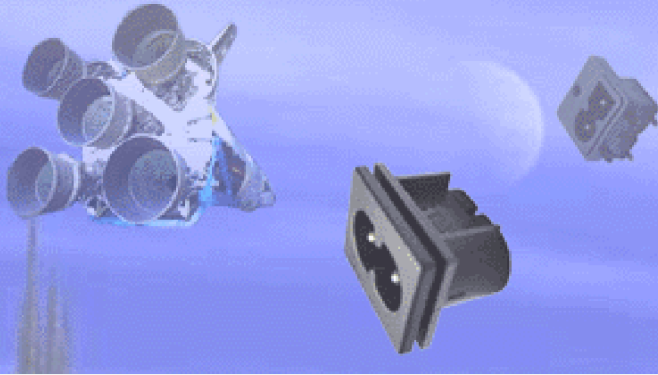
PANEL MOUNTING



Circuit Diagram

PBM22-12M-FS-S-SN-S**

AC DC ●●●●



●●

●●●●

●●

[KD-101](#)



-

●●●●●●●●●●

[KT](#)



●●/●●●●

AC ●●●●, ●● 15A 250VAC

[KS](#)



●●/●●●●

EN60320 AC ●● C14 ●●, ●● 15A 250VAC

[KC](#)



●●/PCB

EN60320 AC ●● C6 ●●, 3 pins ●●●●●●●●

[KP](#)



●●●●

AC ●●●●, ●● 15A 250VAC

[KR](#)



●●/PCB

EN60320 AC ●● C8 ●●, 2 ●●●●●●●●

[S-03F](#)



●●/●●●●

2•1•3•1 AC C14 ●●●●●●●●

[SO-11-1](#)



●●●●

●●●●, ●●●●

[EYC221](#)



●●●●

AC DC ●●, ●●●●●●

[DS320B](#)



●●●●/PCB

DC ●●●●

KD-101 SERIES

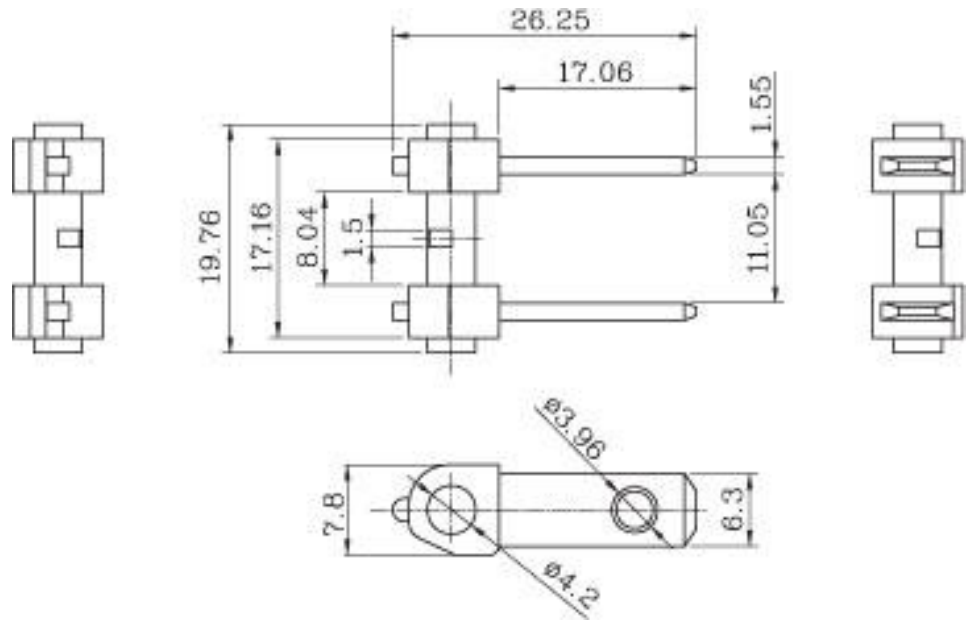
Plug for universal mobile phone battery charger



- Material:PC+ABS
- Terminal: Silver plated Copper

i@

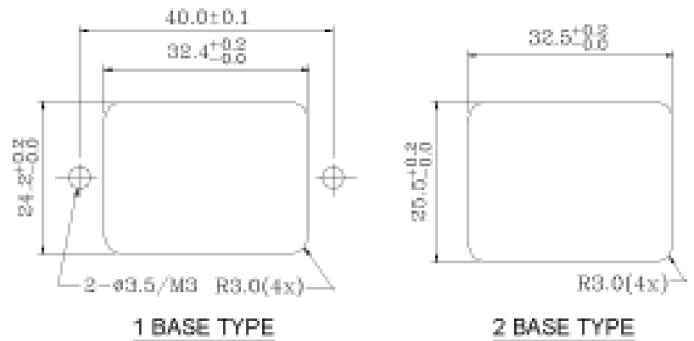
i@

KD-101

i@

KT SERIES

AC POWER OUTLETS UP TO 15A 250VAC, Snap-in mounting - solder lug or quick connect terminals



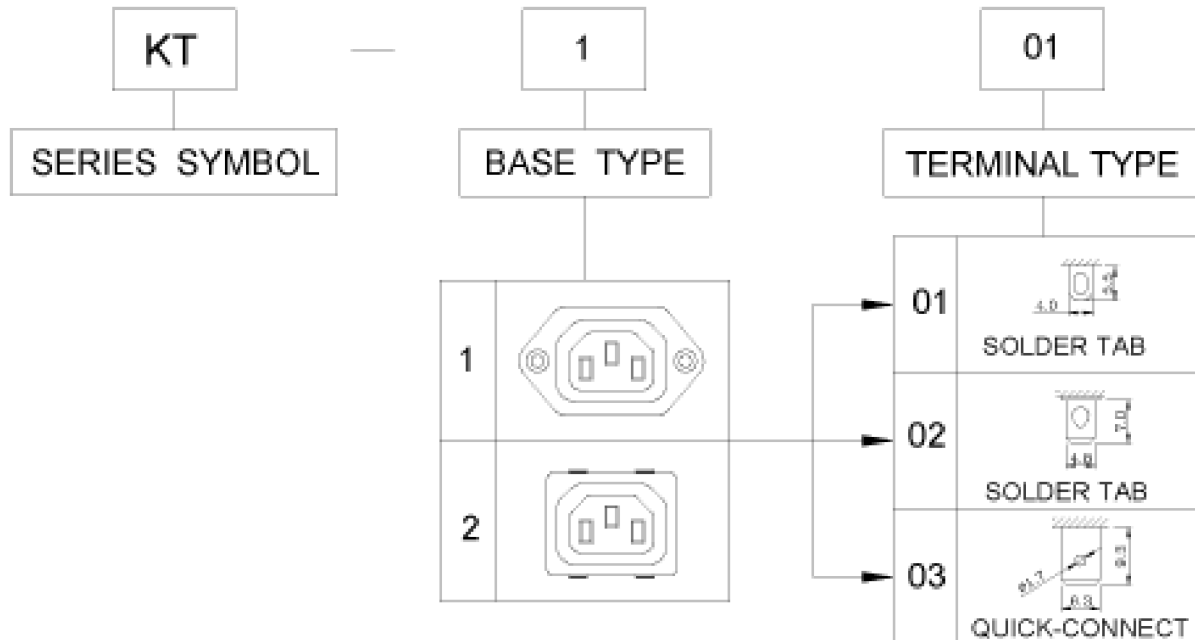
PANEL CUT-OUT



- 15A 250VAC (UL, CUL)
- 10A 250VAC (VDE, ENEC)
- Insulation resistance : 100M Ω (min.), DC 500V
- Dielectric strength: 2,000VAC for 1 Minute

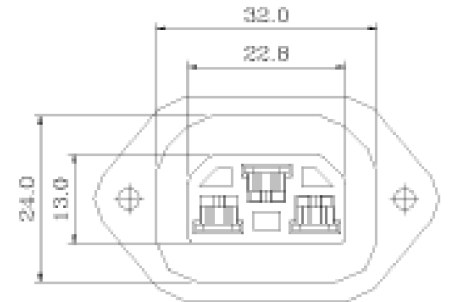
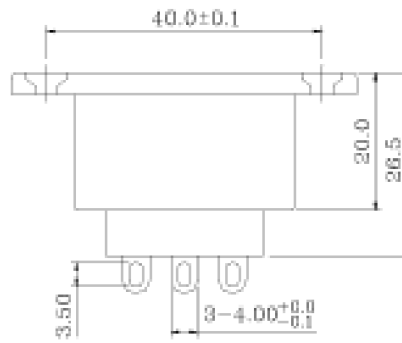
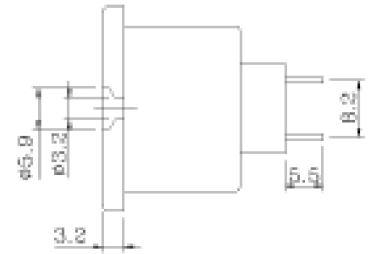
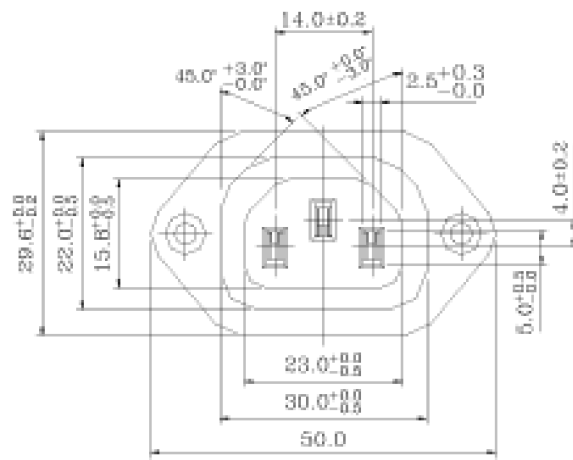
- Housing: PA66 UL 94V-0
- Terminals: Tin-plated brass

How to order

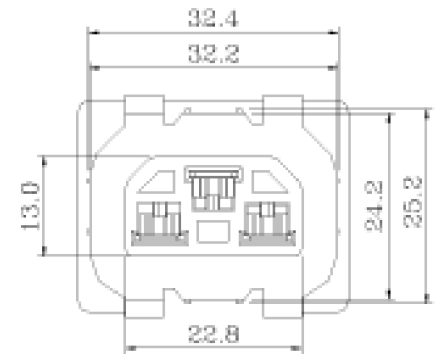
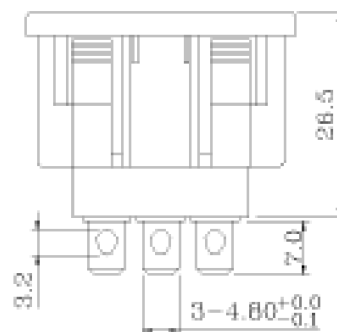
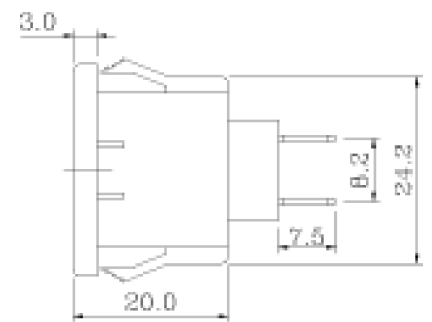
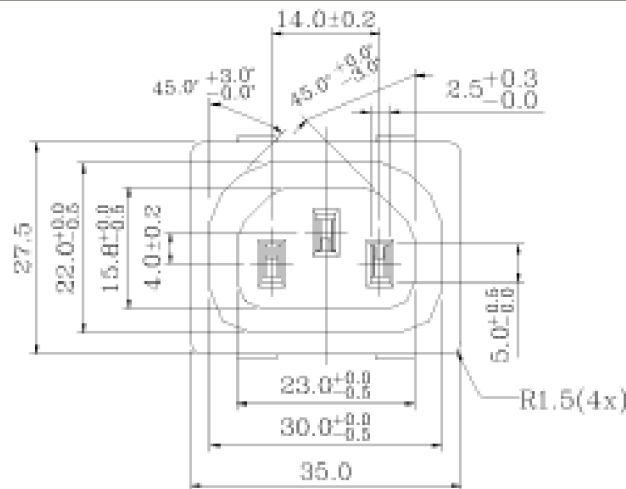




KT-101

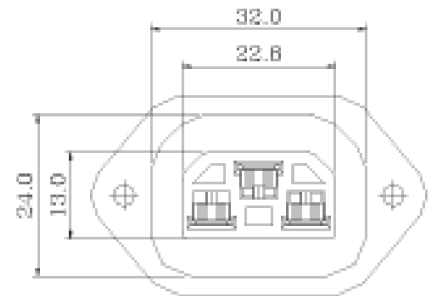
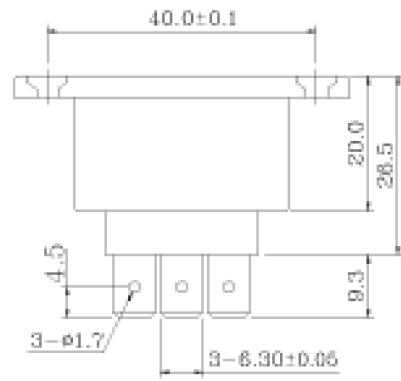
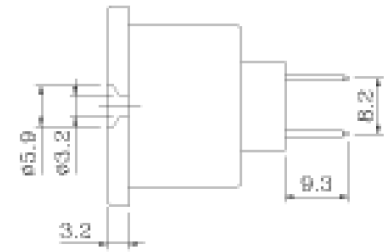
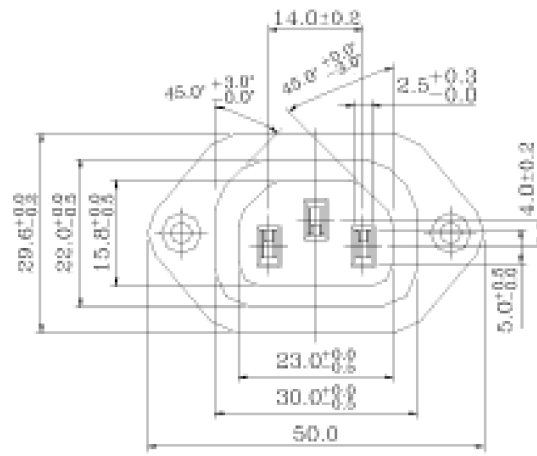


KT-202





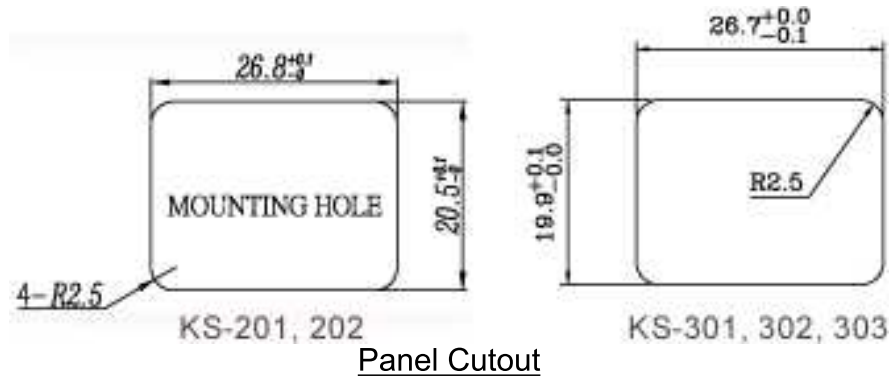
KT-103



KS SERIES

EN 60320 AC POWER C14 INLET UP TO 15A 250VAC

Screw , Snap-in or PCB mounting, 3 or 2 pins - solder lug or quick connect terminals



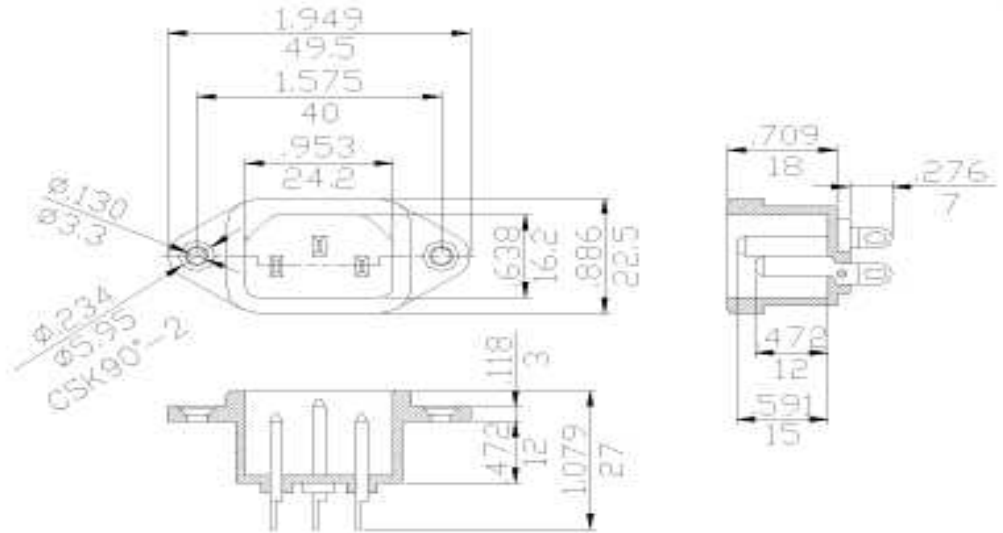
- 15A 250VAC (UL, CUL)
- 10A 250VAC (VDE, ENEC, CCC)
- Meet all UL498 & EN60320 requirements
- Insulation resistance : 100M Ω (min.), DC 500V

- Dielectric Strength : 2000Vac for 1 minute
- Housing: PBT, PA66 or PC, UL rated 94V-2 min
- Temperature range : -20 to +85 degrees in Celsius.
- Terminals: Tin-plated brass

How to Order:

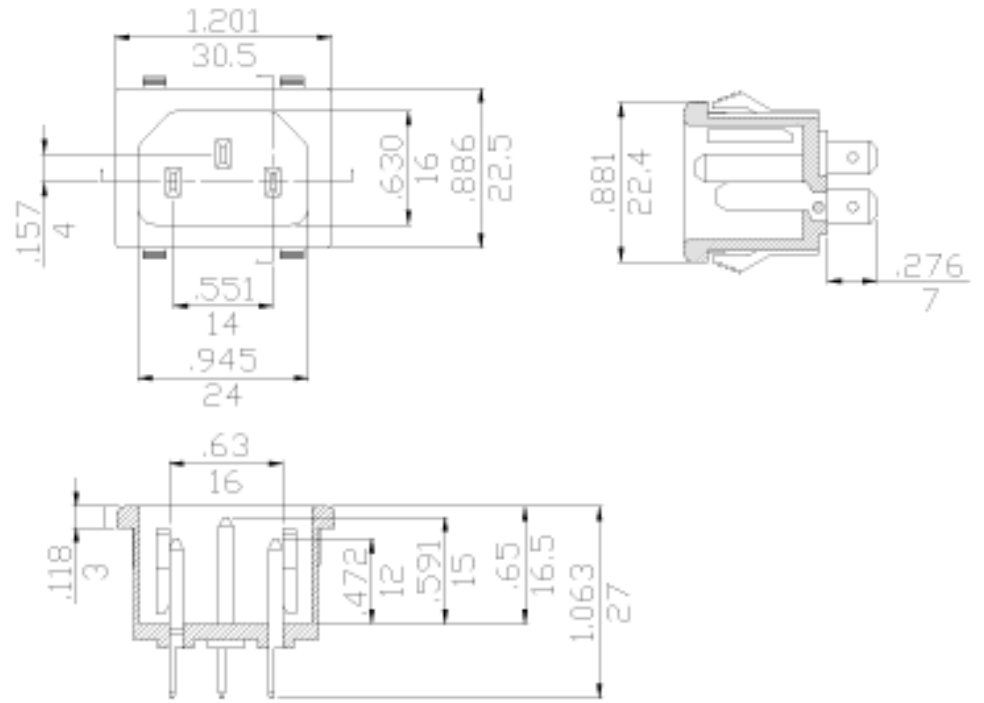


KS-101

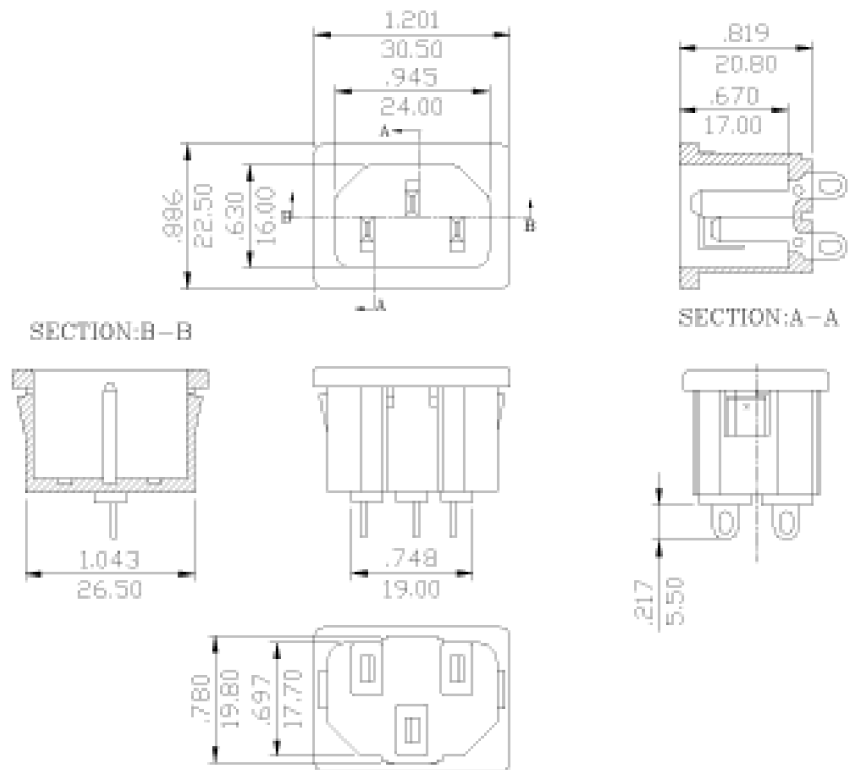




KS-202

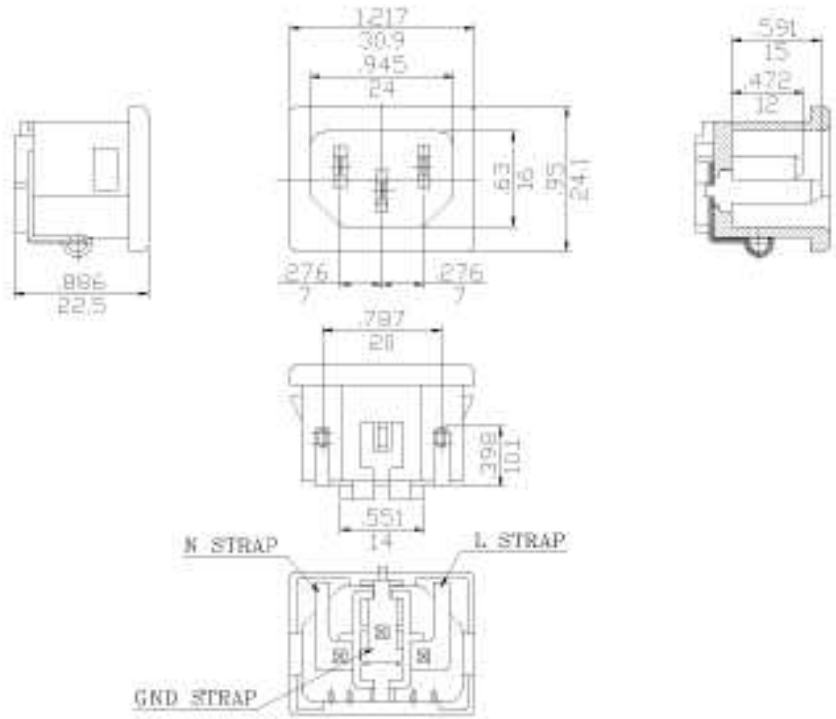


KS-301

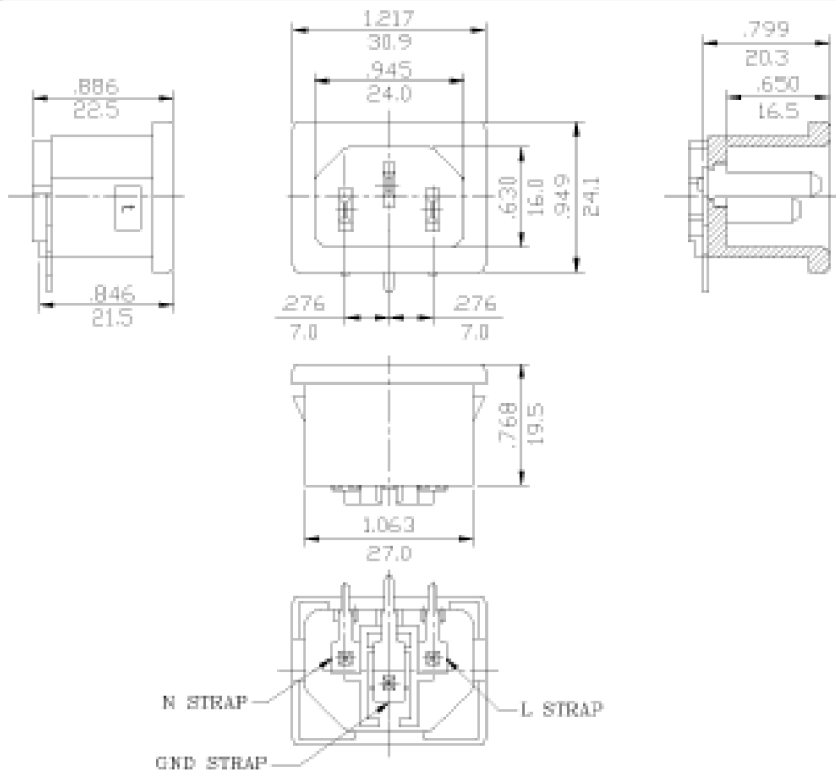




KS-405

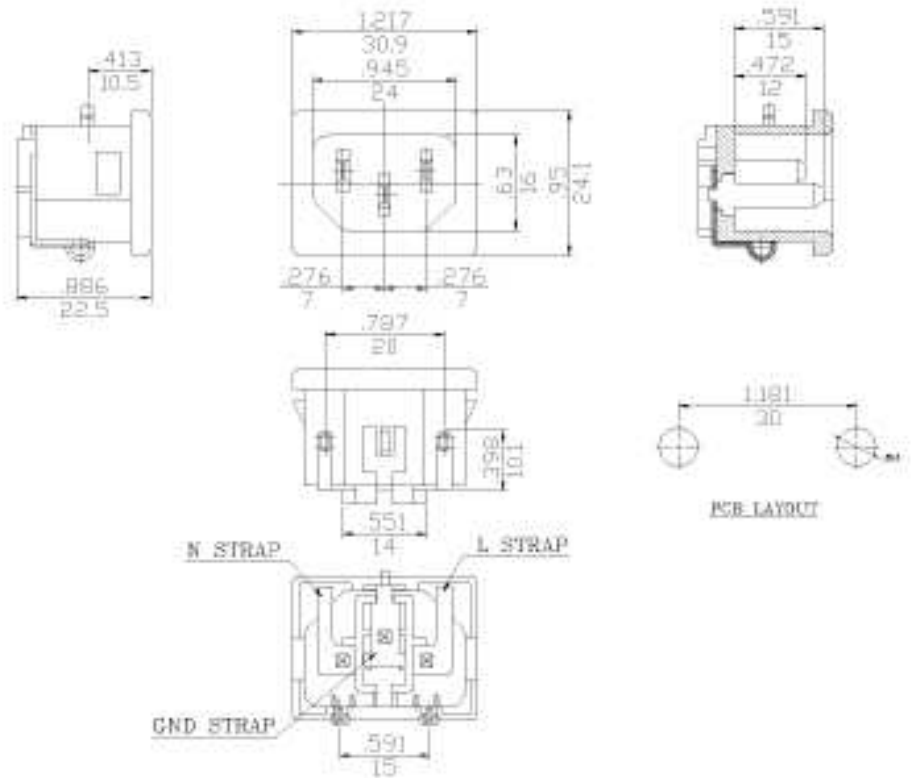


KS406

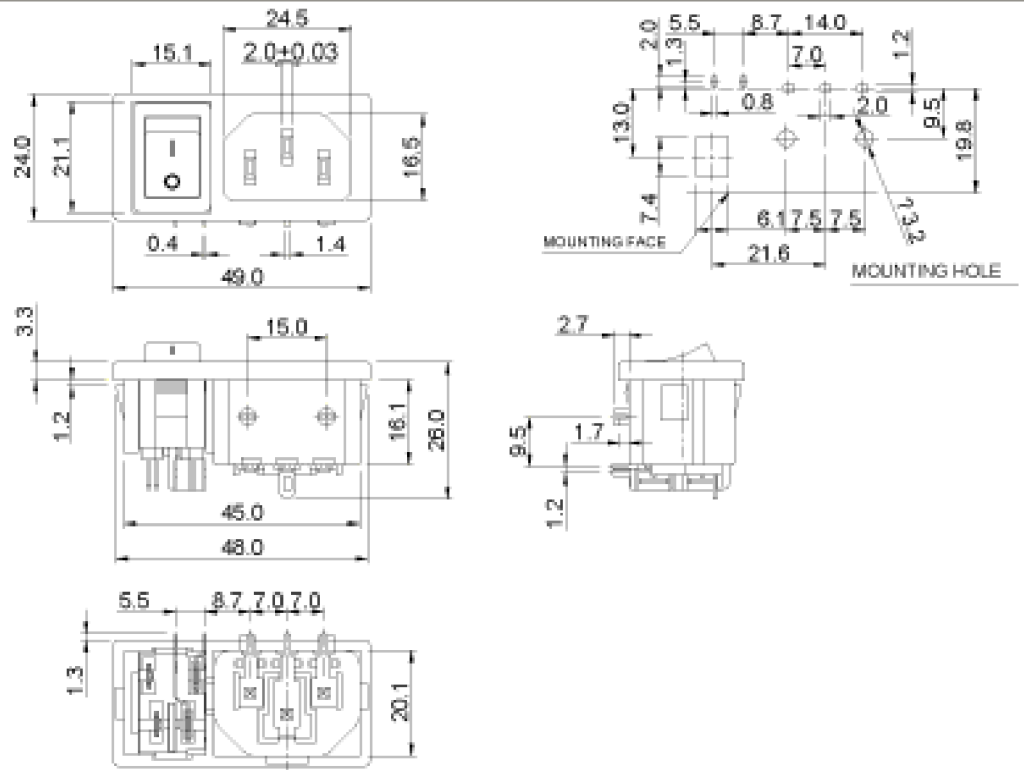




KS-505



KS-606

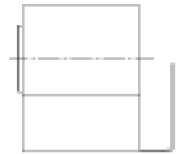
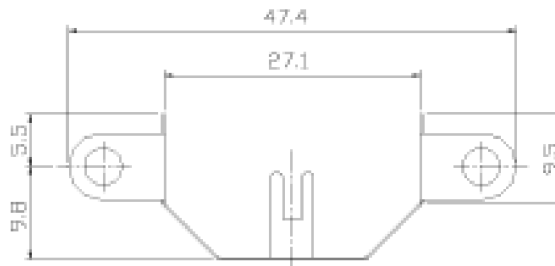
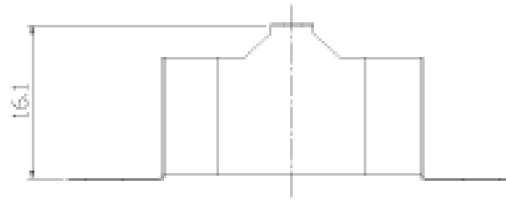




C-236



KS-101FH

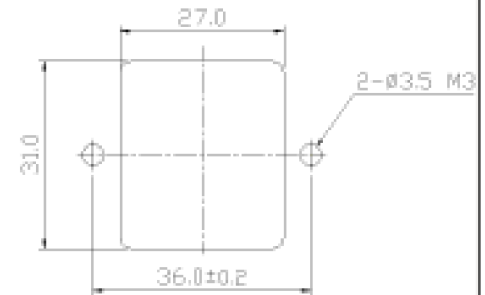
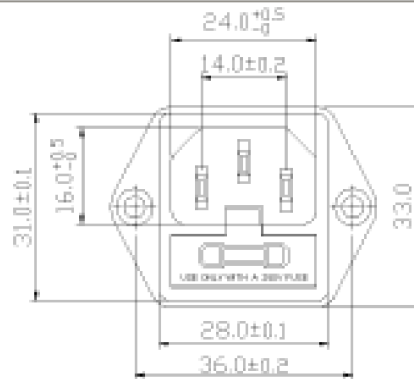


KS-703

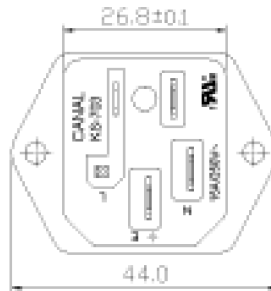
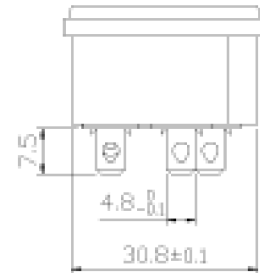
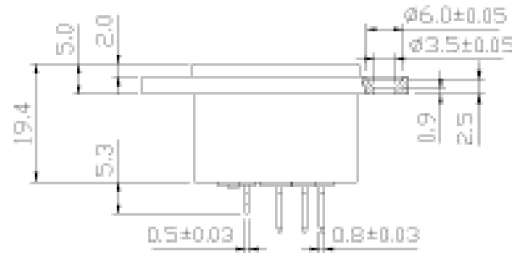
6.3A 250VAC (UL/CUL)

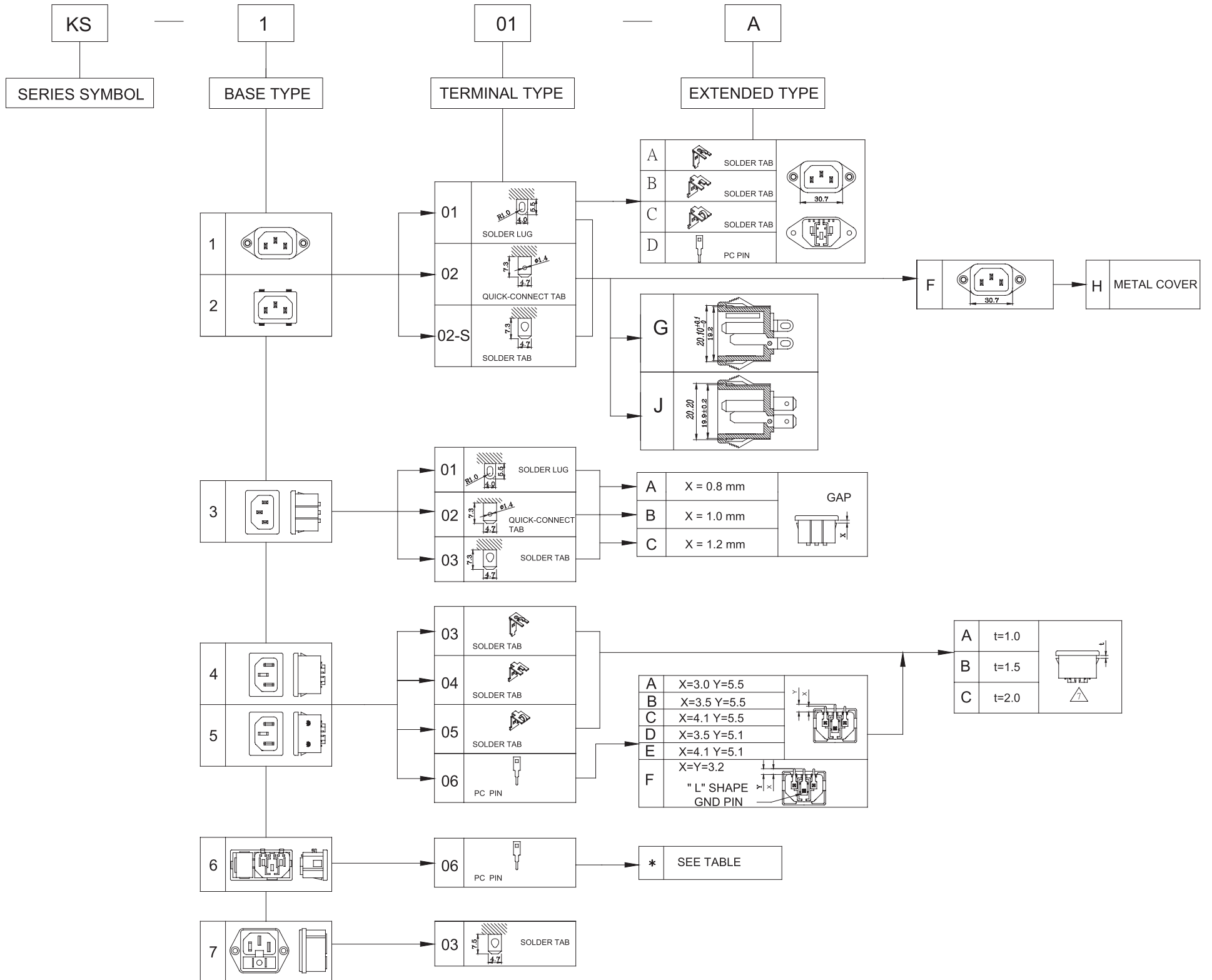
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PANEL CUT-OUT





KC SERIES

EN 60320 AC POWER INLET, UP TO 2.5A 250VAC

C6 Inlet, Cleat or PCB mounting, 3 or 2 pins - solder lug or with wire leads



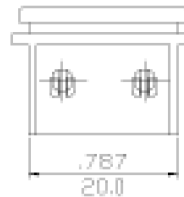
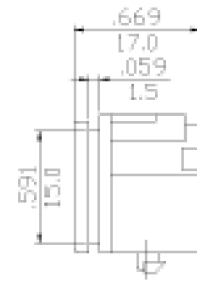
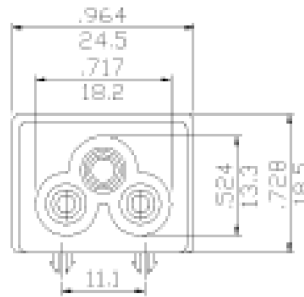
i@

- Rating: 2.5A 250VAC (UL, CUL)
2.5A 250VAC (ENEC, VDE)
- Meet all UL498 & EN60320 requirements
- Insulation resistance : 100M Ω (min.), DC 500V
- Dielectric strength : 2000VAC for 1 minute
- Patent: 2005201281028

- Housing: PBT, or Nylon66, UL rated 94V-2 min
- Temperature range: -20 to +100 degrees in celsius
- Terminals: Tin-plated brass
- Application: Power Adaptor and charger



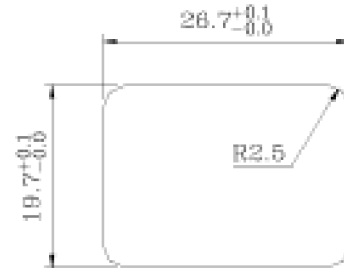
KC-101, 2.5A 250VAC



i@

KP SERIES

AC POWER INLETS UP TO 15A 250VAC, Snap-in mounting - solder lug or quick connect terminals



PANEL CUTOUT

i@

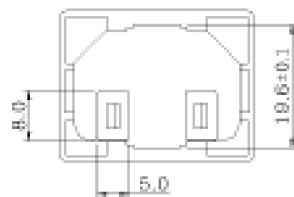
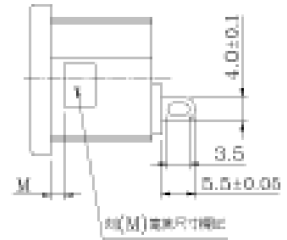
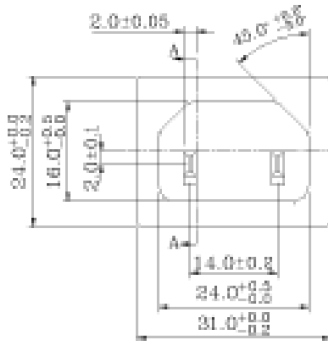
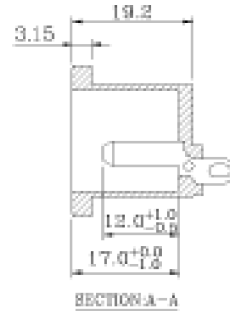
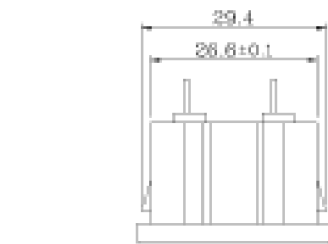


- 15A 250VAC (UL, CUL)
- 10A 250VAC (TUV)
- Insulation resistance : 100M Ω (min.), DC 500V
- Dielectric strength: 2,000VAC for 1 Minute
- Housing: PBT+15%GF UL rated 94V-2 min
- Terminals: Tin-plated brass

i@



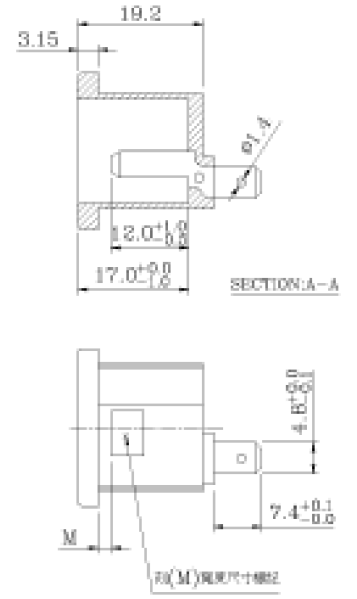
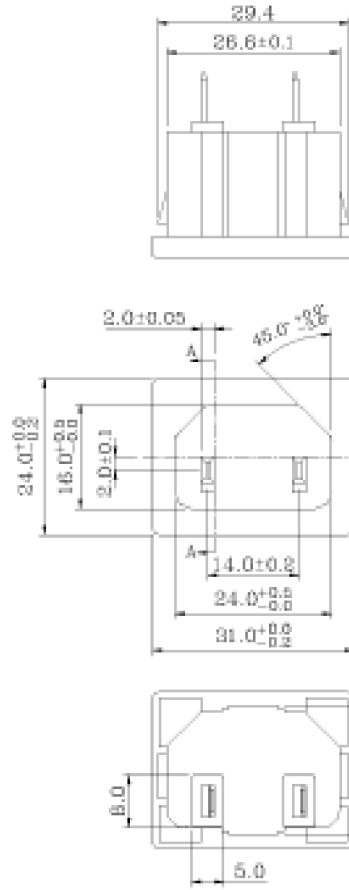
KP-101



料 號	WIDTH(M)	MAKING
B-331	2.0 ±0.1	φ#2.0
B-331A	1.5 ±0.1	φ#1.5
B-331B	1.2 ±0.1	φ#1.2
B-331C	0.8 ±0.1	φ#0.8



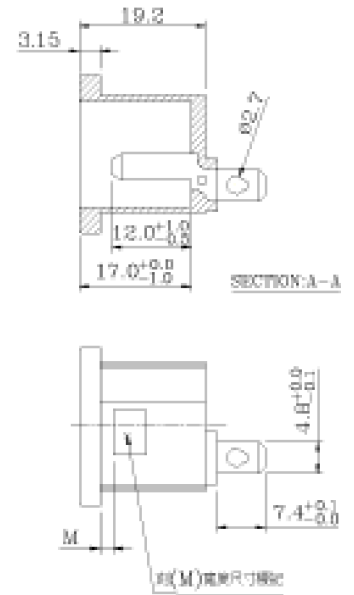
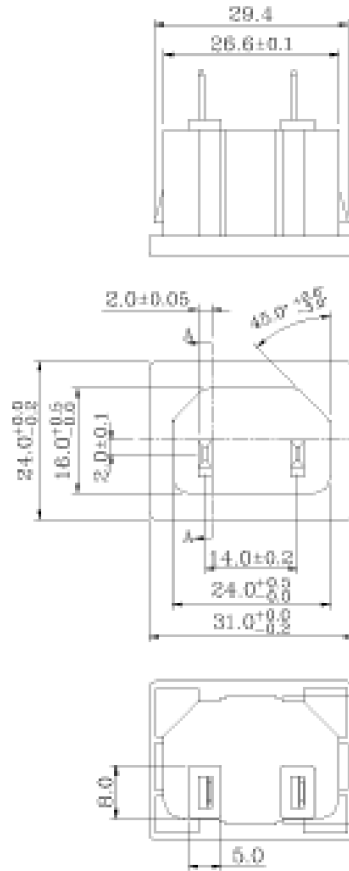
KP-102
i@



料 號	WIDTH(M)	MAKING
B-332	2.0 ^{+0.2} _{-0.0}	規格2.0
B-332A	1.5 ^{+0.2} _{-0.0}	規格1.5
B-332B	1.2 ^{+0.2} _{-0.0}	規格1.2
B-332C	0.8 ^{+0.2} _{-0.0}	規格0.8



KP-103



料 號	WIDTH(M)	MAKING
B-333	2.0 ^{+0.2} _{-0.0}	規格2.0
B-333A	1.5 ^{+0.2} _{-0.0}	規格1.5
B-333B	1.2 ^{+0.2} _{-0.0}	規格1.2
B-333C	0.8 ^{+0.2} _{-0.0}	規格0.8

KR SERIES

EN 60320 AC POWER C8 INLET UP TO 2.5 250VAC
Cleat or PCB Mounting - 2 pins solder lug or wire leads



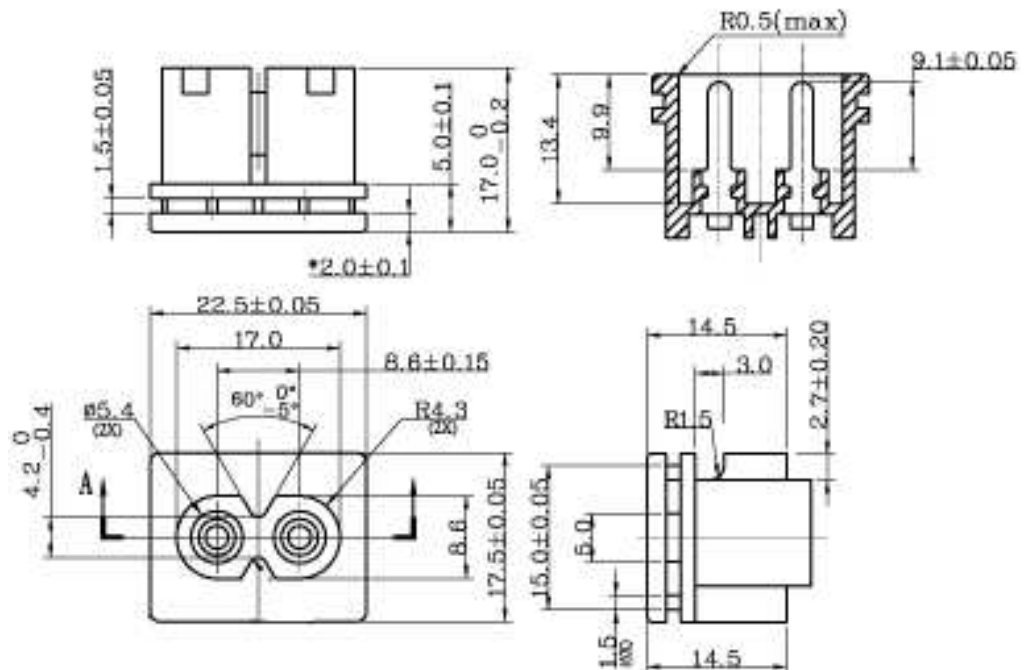
- Rating: 2.5A 250VAC (UL, CUL, VDE, ENEC, CCC)
- Meet all UL498 & EN60320 requirements
- Insulation resistance : 100M Ω (min.), DC 500V
- Dielectric strength : 2000VAC for 1 minute
- Patent: 200520128102.8 (CHINA)
- Housing: PBT, or Nylon66, UL rated 94V-2 min
- Temperature range: -20 to +100 degrees in celsius
- Terminals: Tin-plated brass
- Application: Power Adaptor and charge

How to Order



KR-102

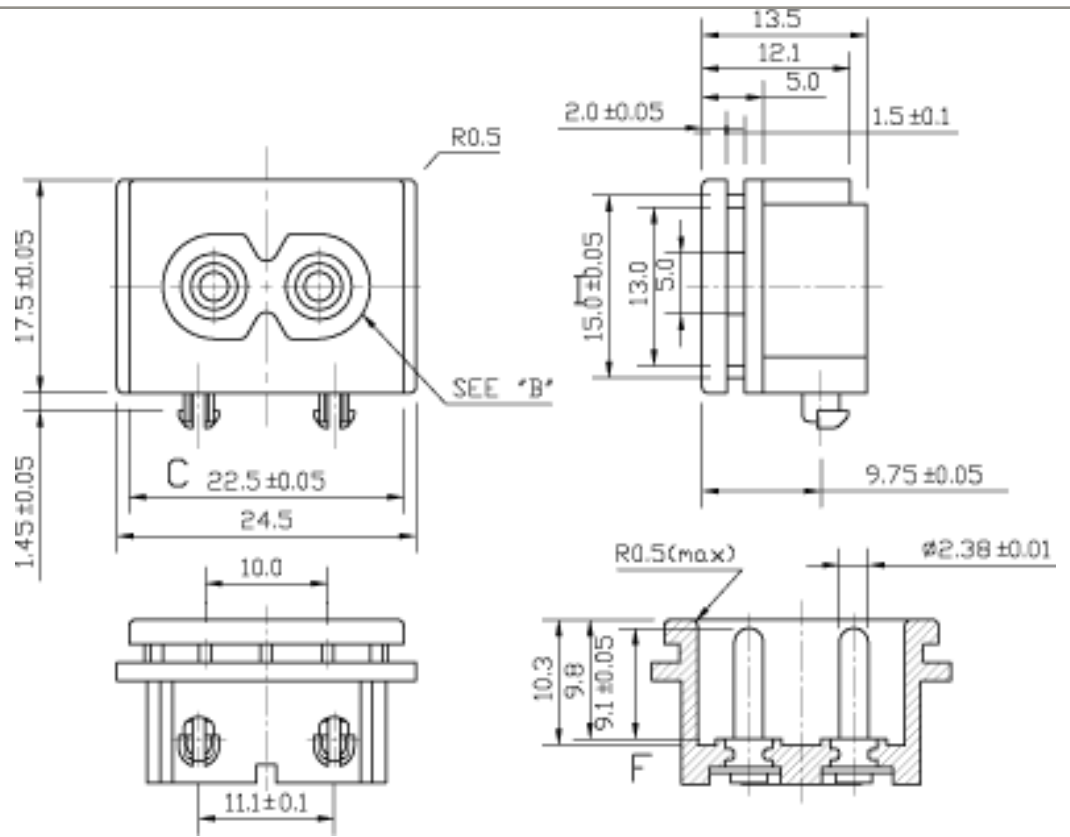
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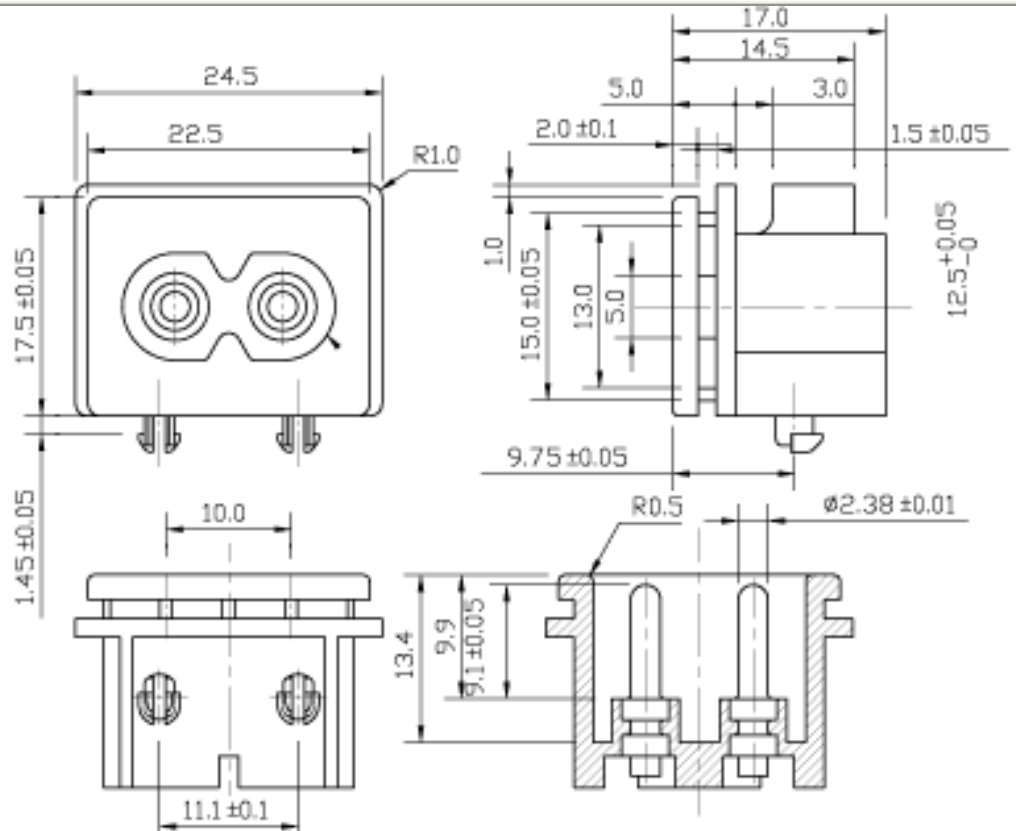
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KR-201

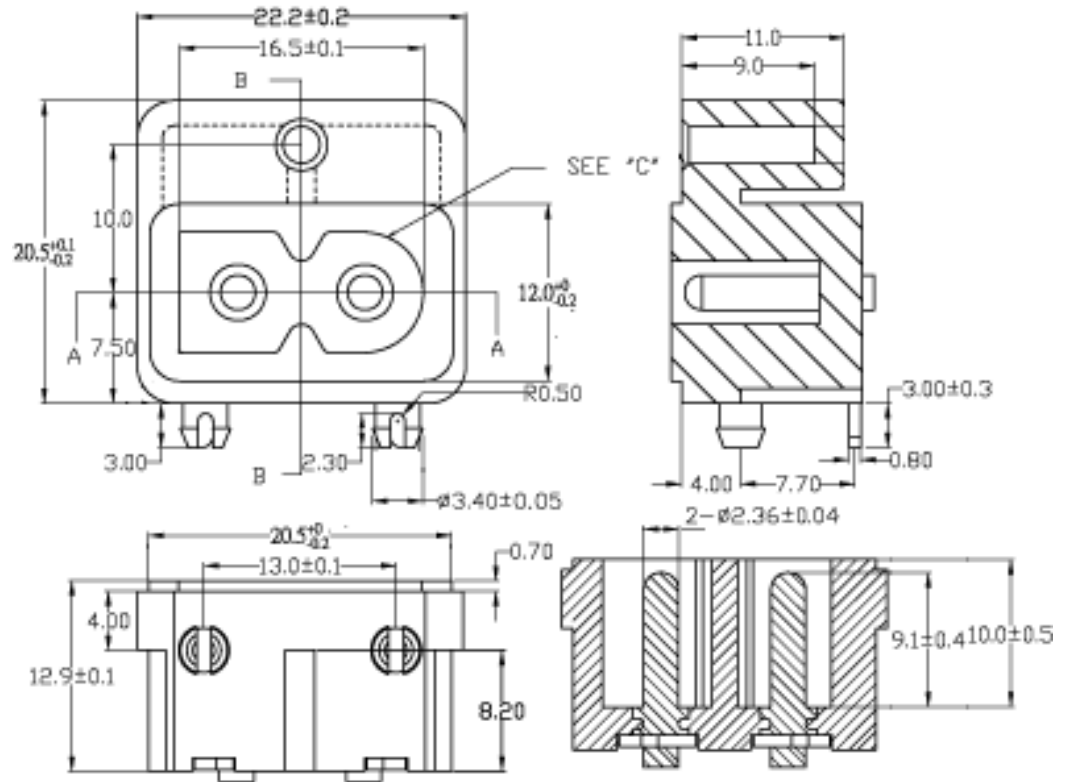


KR-202





KR-203
i@



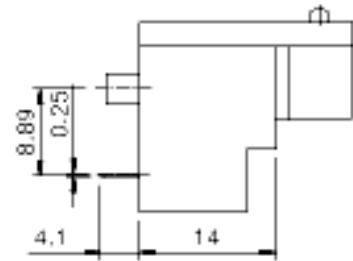
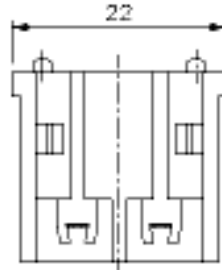
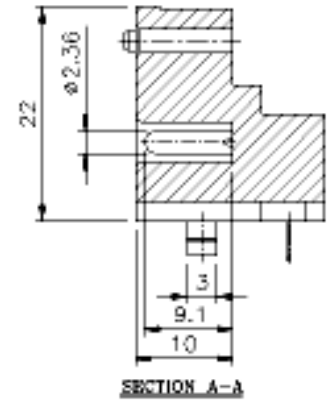
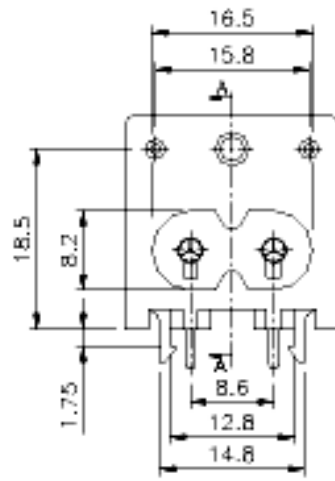
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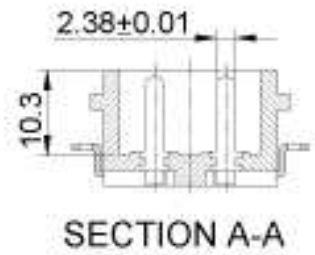
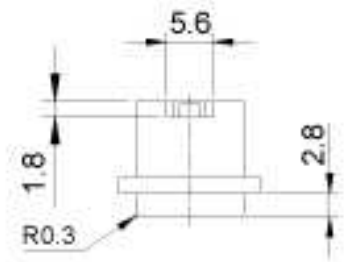
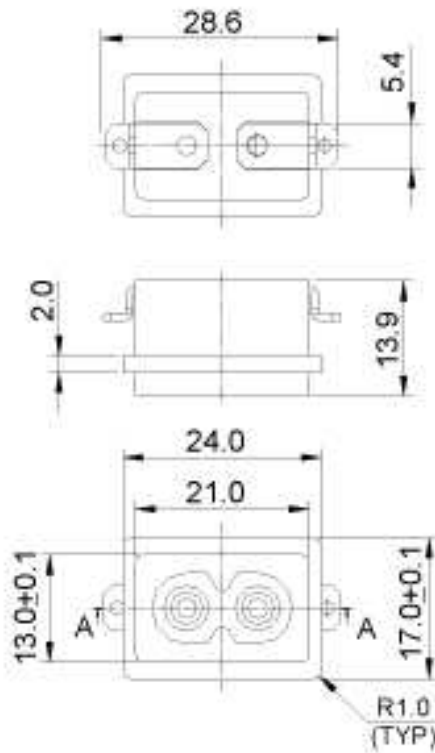
- Wire assembly available



KR-203A

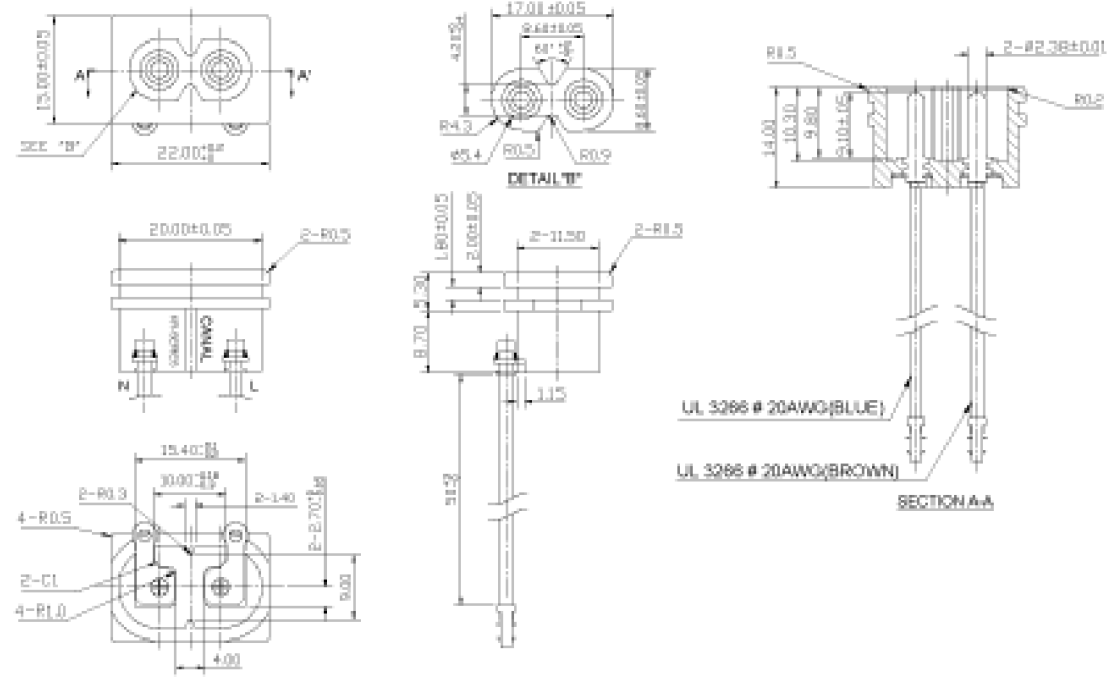


KR-202A





KR-201A-A

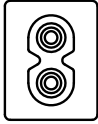
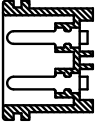

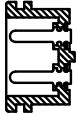
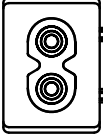
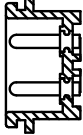

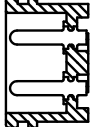

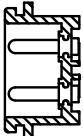
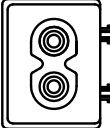
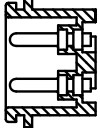

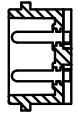
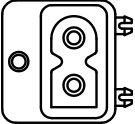
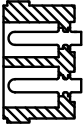
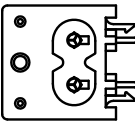
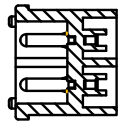


KR

SERIES SYMBOL

102

BASE TYPE

102	102		
	102-A		
201	201		
	201-A		
	201-B		
202	202		
	202-A		
203			
203A			

S-03F SERIES

EN 60320 AC POWER C14 INLET WITH FUSE HOLDER, UP TO 6.3A 250VAC

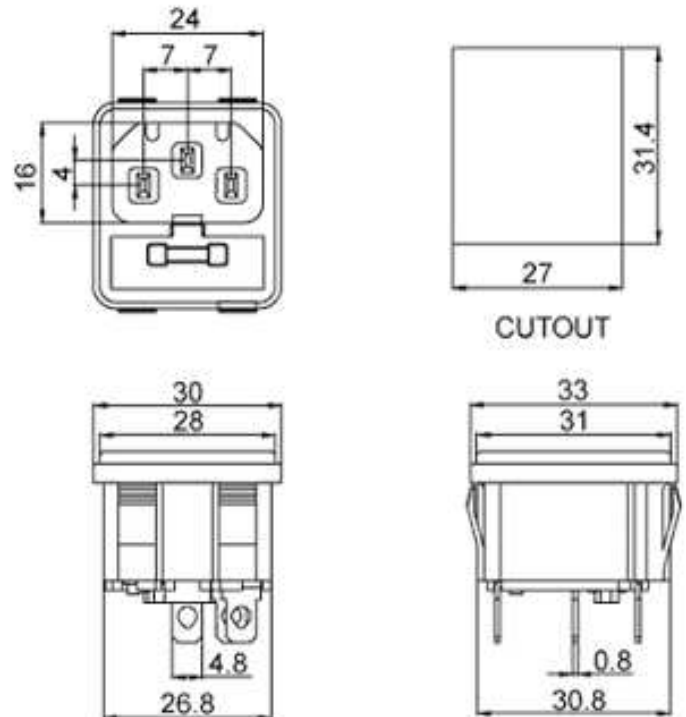
Screw , Snap-in mounting, quick connect terminals



- 6.3A 250VAC (UL, CUL)
- 6.3A 250VAC (VDE)
- 10A 250VAC (CCC)
- Insulation resistance: 100M Ω (min.), DC 500V
- Dielectric Strength : 2000Vac for 1 minute
- AC power inlet C14 with fuse holder according to IEC/EN 60320
- Safety approved internationally by UL&CUL in North America, VDE in Europe, CCC in Asia.
- Screw and snap-in mounting
- 187 Quick-connect terminals

**S-03F-11-4**

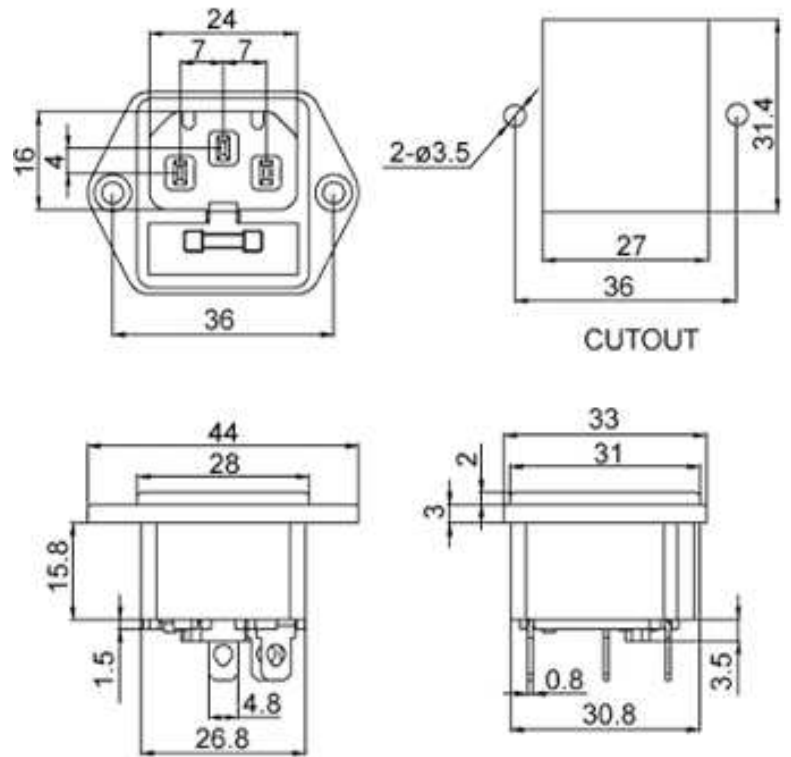
- Fuse is for optional request





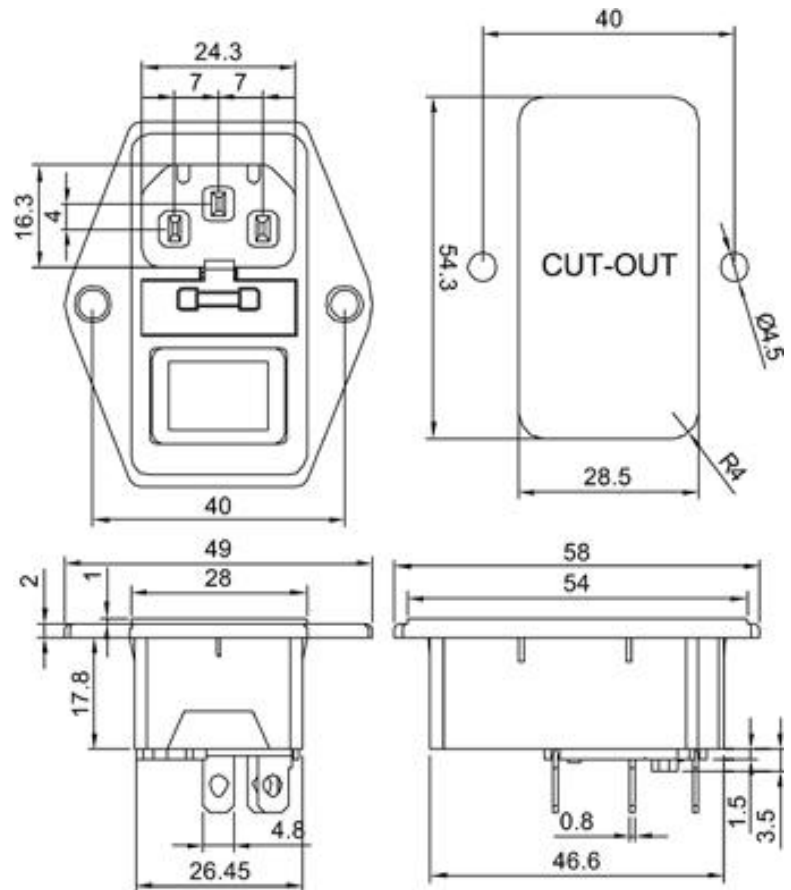
S-03F-12-4

- Standard snap-in panel thickness: 1.0mm; 1.5&2.0mm also available
- Fuse is for optional request



S-03F-11S-4

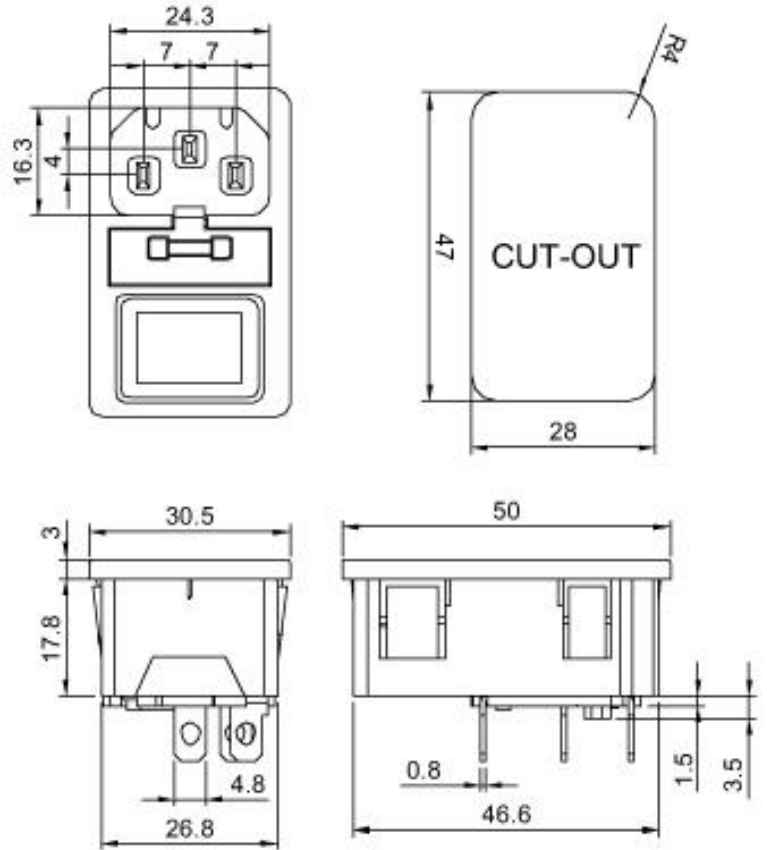
- Switch or Fuse is for optional request





S-03F-12S-4

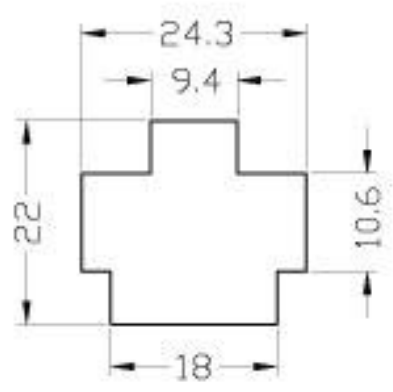
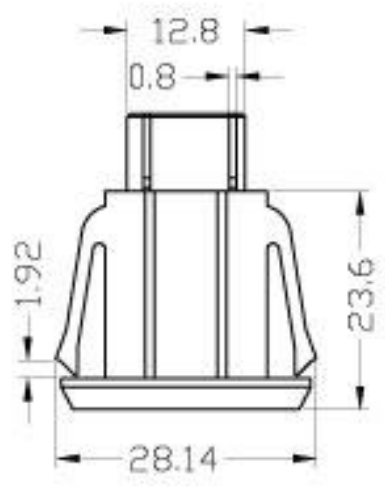
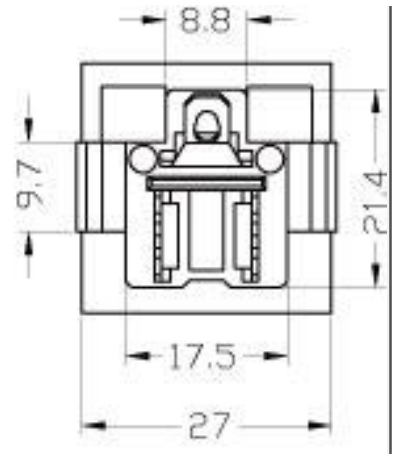
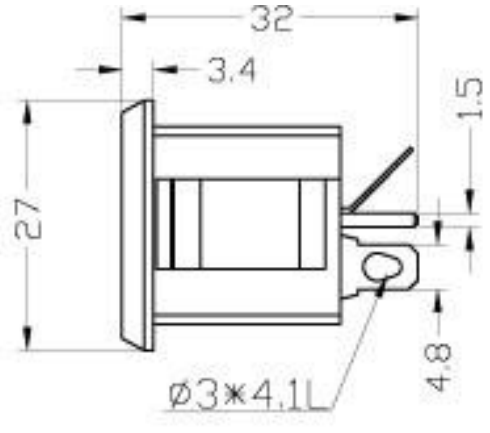
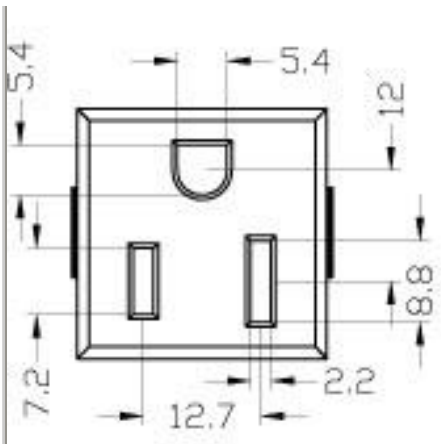
- Standard snap-in panel thickness:
1.0mm; 1.5&2.0mm also available
- Switch or Fuse is for optional request



SO-11-1 POWER OUTLET, American Standards, up to 15A 125VAC

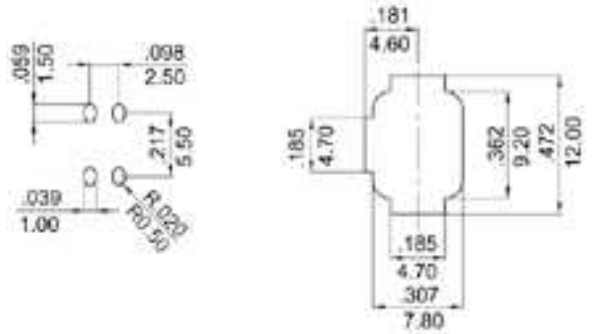


- Rating: 15A 125VAC (UL, CUI) North American
- Initial contact resistance : 30m ohm MAX.
- Insulation resistance : 1000M ohm MIN. at 500VDC Dielectric strength : 2,000VAC For 1 MINUTE
- Housing: nylon 66,94V2
- Terminals: Brass, tin-plated



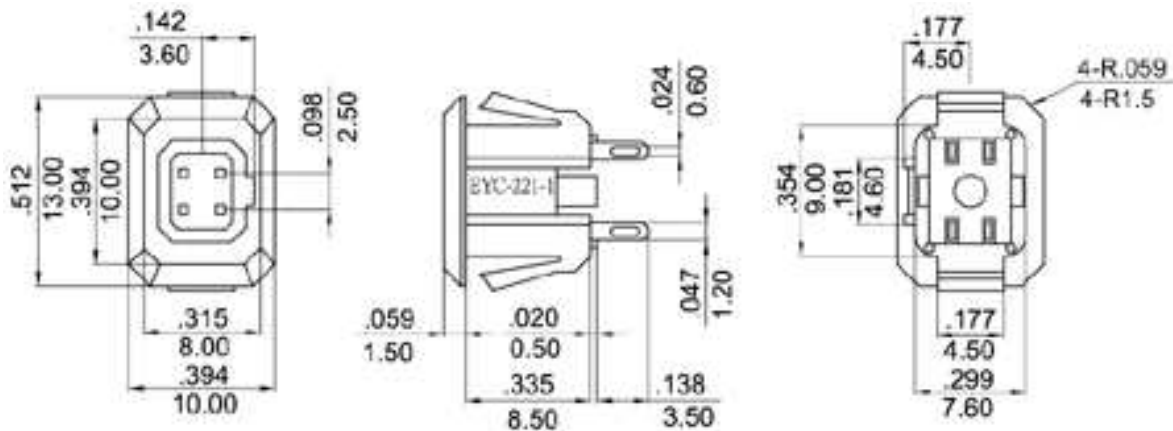
PANEL CUT-OUT

EYC221 AC DC Socket, 3 parts-clipped assembly, up to DC 30V, 0.5A

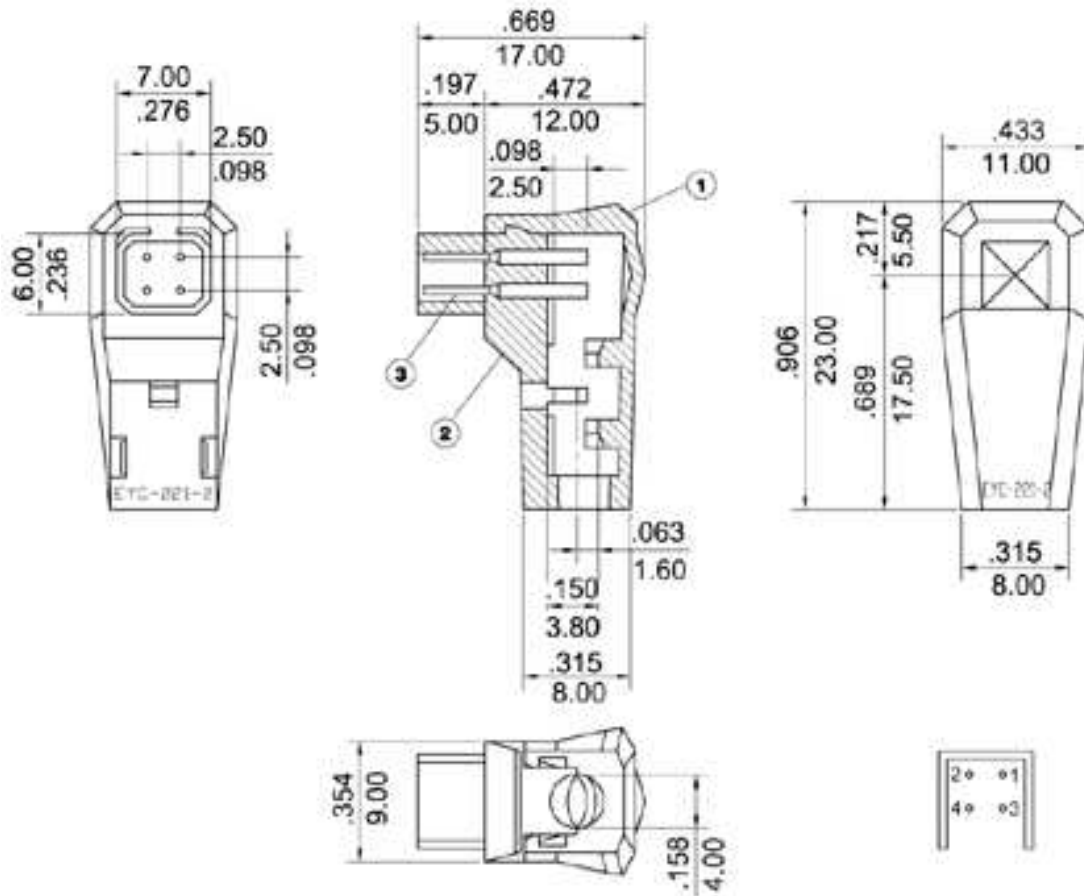


- Rating: DC 30V, 0.5A
- Mechanical life: 10,000 cycles at 15-18 cycles/minute
- Dielectric Strength: AC 500V for 1 min.
- Contact Resistance: max. 30m ohm initially
- Insulation Resistance: min. 100M ohm at DC 500V for 1 min
- Housing: nylon 66 UL rated 94V0
- Terminals: tin or silver plated brass
- Base: PBT UL rated 94V0
- Suitable CCD digital cameras

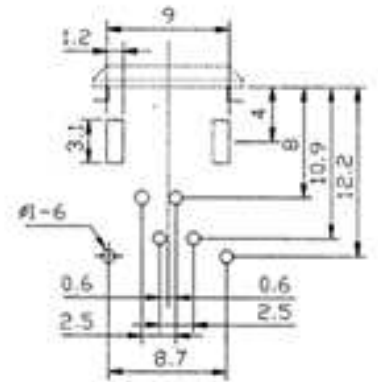
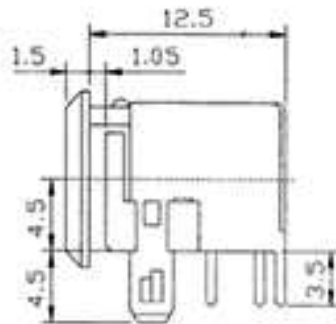
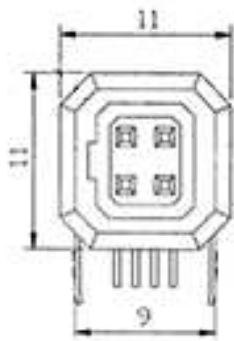
EYC-221-1




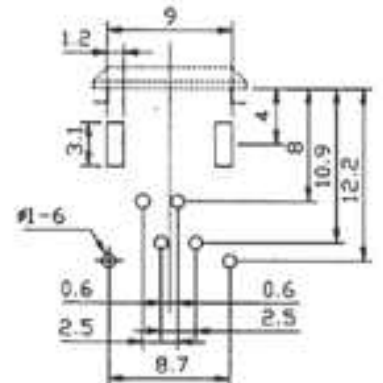
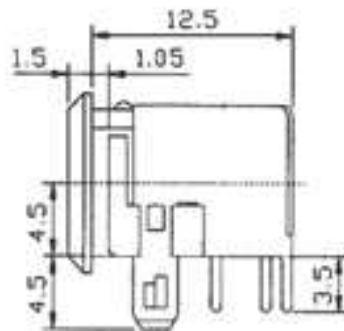
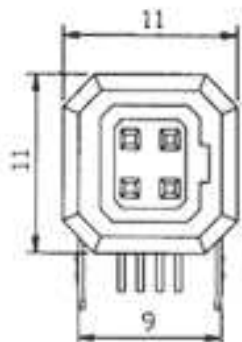
EYC-221-2




EYC-221-5

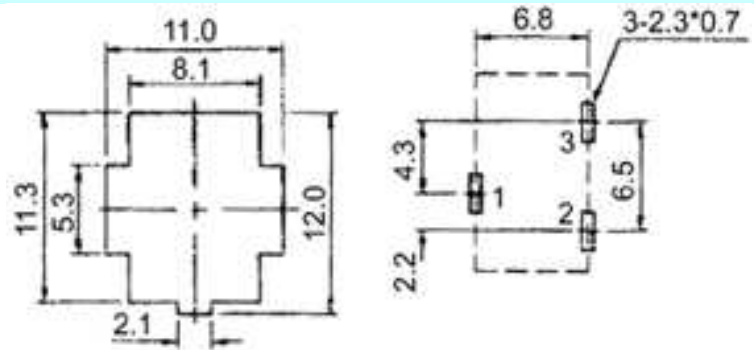



EYC-221-5-R
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DS320B SERIES

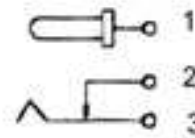
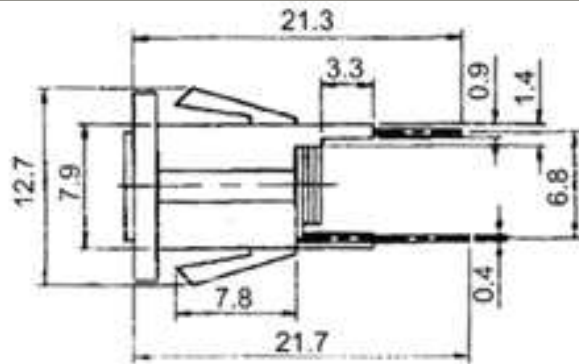
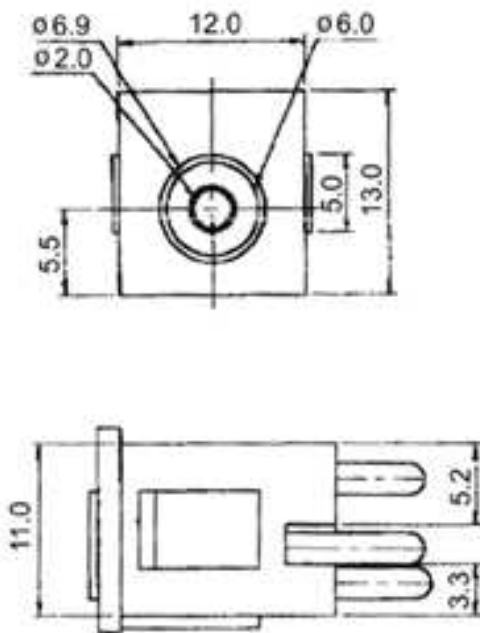
DC power jack up to DC 30V, 0.3A



Snap-In Panel Cutout & PCB Holes

- Rating: DC 30V, 0.3A
- Mechanical life: 10,000 cycles at 15-18 cycles/minute
- Dielectric Strength: AC 500V for 1 min.
- Contact Resistance: max. 30m ohm initially
- Insulation Resistance: min. 100M ohm at DC 500V for 1 min

- Housing: nylon 66
- Pin terminals: silver plated brass
- Break terminal: silver plated brass
- Tip terminals: silver plated steel
- Base: phenolic Laminate
- Features: suitable for telephones, toys and audio products



CIRCUIT

Ä_, ð³/₄¹/ «OÀÌμ·®y



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©T©wðè!;

ðŒ²Ð

[FR218-series](#)



¹¹/₂±μ´OðJ 2|X1Œ}Äö (Œ}ÄöŒ[«OÀÌμ·®y), 10A 250VAC

[SS-001-series](#)



¹¹/₂±μ´OðJ 2|X1Œ}Äö (Œ}ÄöŒ[Ä_, ð³/₄¹), 3A~20A, Œ±±æzO

[88-series](#)



´O©ÌÄêðJ Ä_, ð³/₄¹, 3A~20A

[98-series](#)



´O©ÌÄêðJ Ä_, ð³/₄¹, 3A~50A

[90-series](#)



- Ä_, ð³/₄¹, 1A~10A, °¹¹F«OÄ@³/₄¹

[91-series](#)



- Ä_, ð³/₄¹, 1A~10A, °¹¹F«OÄ@³/₄¹

[97-series](#)



- Ä_, ð³/₄¹, 6A~15A, °¹¹F«OÄ@³/₄¹

[FH1](#)



ÄêðJ «OÀÌμ·®y, Œ±Œó´««OÀÌμ·, |w, ËÄ²©ö

[FH-201](#)

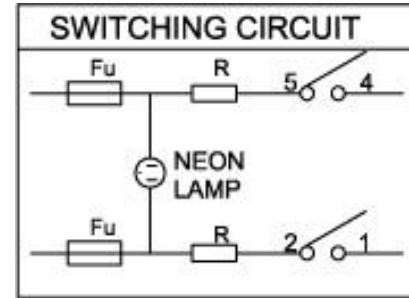


- «OÀÌμ·®y, Œ±Œó´««OÀÌμ·, |w, ËÄ²©ö

i@

FUSWITCH, FR218 SERIES

2in1 Custom Designed Control Solution, Power Switch plus Fuseholders



CE

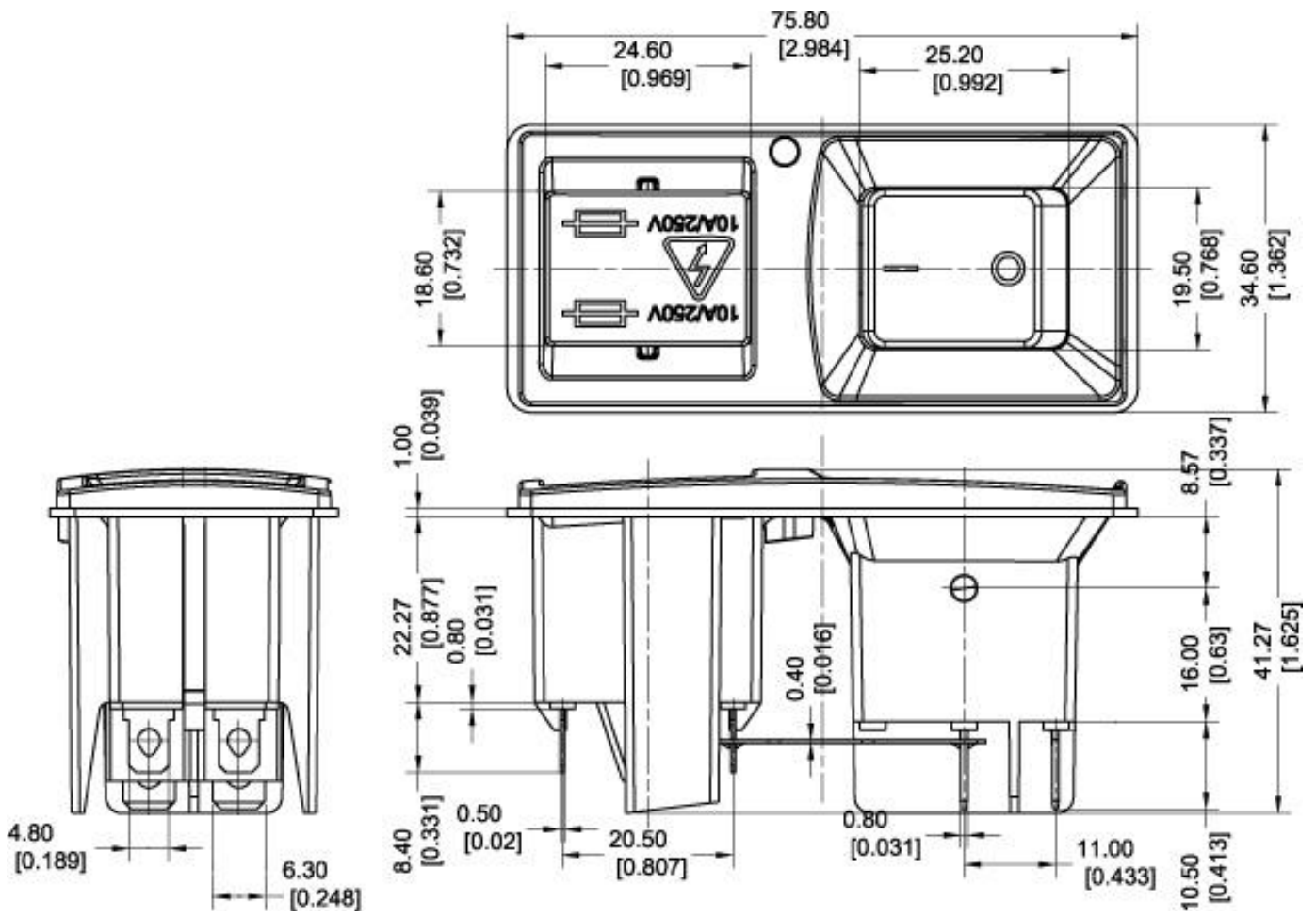
- 10(2) 250V~ 1E4(CE)
- Initial contact resistance : 20m ohm max.
- Insulation resistance : 100M ohm min, at 500VDC
- Dielectric strength : 1,000 VAC for 1 minute
- Base : Nylon 66, UL rated : 94V-2 min
- Actuator : Nylon 66 /PC, UL rated 94V-2 min
- Contacts : Silver copper alloy
- Terminals : Silver copper alloy

- FR218 is a high power switch plus a twin-fuse holder for good circuit protection.
- Fuses are exchangeable
- Switch can be either illuminated or non-illuminated
- Lamp : Neon for AC
- Fuse: Optional, 10A 250V, $\text{Fr}5.2 \times 20$

i@

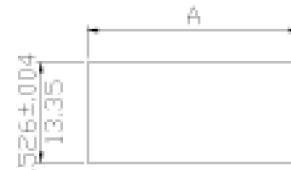
FR218-C5A





SS-001 SERIES

2 IN 1 ROCKER SWITCHES 3A TO 20A 125VAC, LIGHTED OR NON-LIGHTED
Built in with circuit breaker



PANEL THICKNESS	DIMENSION A
0.8 ~ 1.0 (.031~.039)	28.4 ^{+0.1} ₋₀ (1.118 ^{+0.004} ₋₀)
1.1 ~ 1.4 (.043~.055)	28.8 ^{+0.1} ₋₀ (1.134 ^{+0.004} ₋₀)
1.5 (.059)	29.0 ^{+0.1} ₋₀ (1.142 ^{+0.004} ₋₀)

SUGGESTED MOUNTING HOLE

- Rating: 3A~20A 125/250VAC, 32 VDC(UL, CUL); 3A~16A AC250VAC(VDE)
- Interrupt capacity: 1000A 32VDC/250VAC
- Initial contact resistance : 50mΩ max.
 - Insulation resistance : 100MΩ min, at 500VDC
 - Dielectric strength : 1,250VAC for 1 minute
 - Electrical life : 6,000 cycles
- Housing: Nylon 66, UL rated 94V-2 min.
- Actuator: PC, UL rated 94V-2 min.
- Lamp : Neon
- Terminals: Silver plated brass
- Contact arm: Bi-metal
- Contact: Silver alloy

How to order:

CB	L	L	A	F	BB1	R	R1	1
MODEL TYPE	LAMP	TERMINAL TYPE	VOLTAGE	RATING	HOUSING	ACTUATOR	ACTUATOR COLOR	ACTUATOR COLOR
CT: SS-001T TRIP FREE (UL, CUL, VDE)	L: W/LAMP N: NO LAMP G: GREEN LAMP	L: LONG S: SHORT	A: AC125V C: AC 250V	5: 5A 6: 6A A: 10A C: 12A F: 15A K: 20A	BB1: B TYPE BLACK COL#1	R: R TYPE (STD.)	R1: RED PC COL.#1 O1: ORANGE PC COL#1 G1: GREEN PC COL #1	O: NONE 1: RESET • OFF
CB: SS-001C TRIP FREE, CYCLING (UL, CUL)								

* More product request, please contact our sales directly.

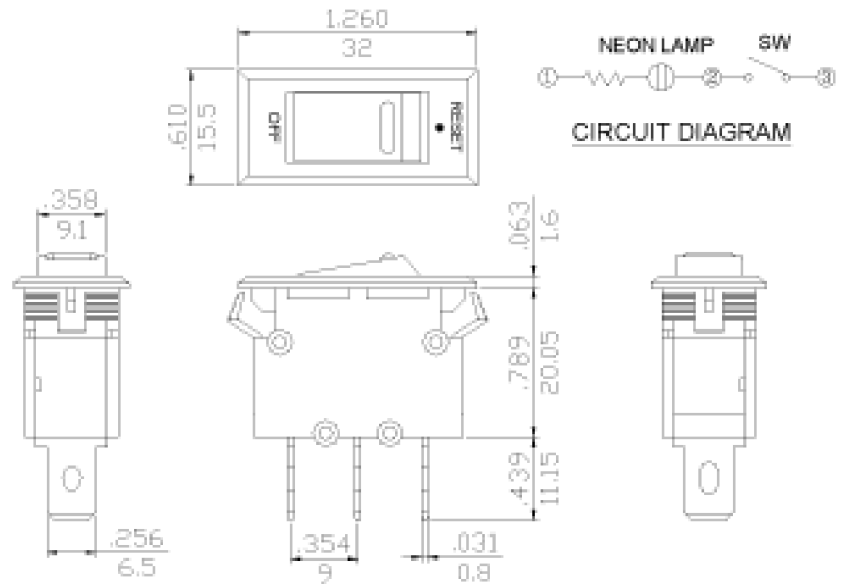
* Old part number SS-001-CBLL-1A15-BRR01 = CBLLAFBB1RR11

**CURRENT LEVEL
(% OF RATED)**

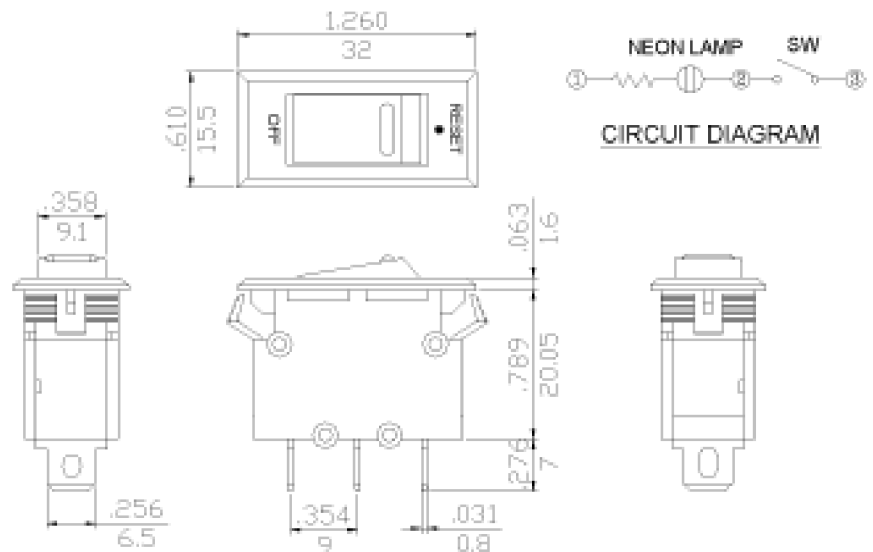
TRIP TIME

CURRENT LEVEL (% OF RATED)	TRIP TIME
100%	NO TRIP
150%	TRIP IN 1 HOUR
200%	3.0-60 SEC
300%	0.8-12 SEC
400%	0.35-5 SEC
500%	0.3-2.9 SEC
600%	0.25-2 SEC
800%	0.2-1 SEC
1000%	0.15-0.8 SEC

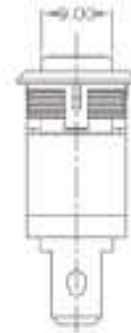
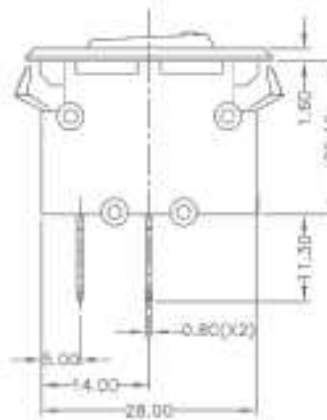
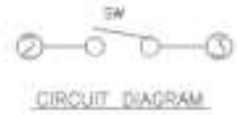
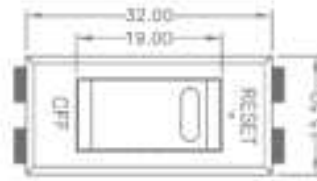
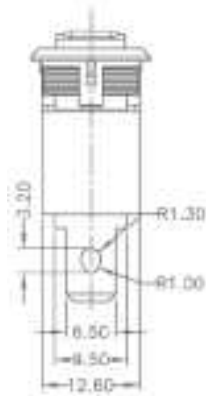
CBL



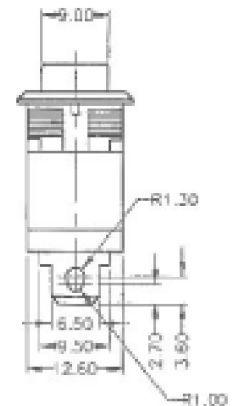
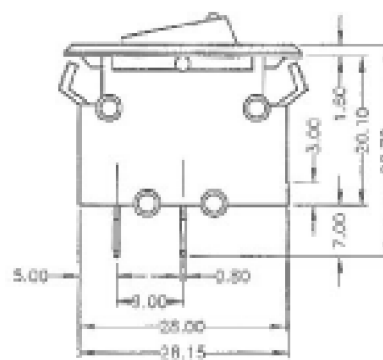
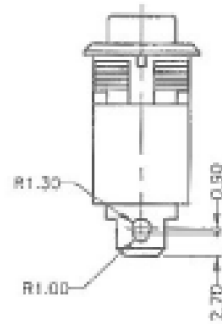
CBL



CBNL



CBNS



88 SERIES

THERMAL CIRCUIT BREAKER, 3A TO 25AMP

Wide selections of terminals, bushing and caps



WATER PROOF NUT



- Rating: 3.0Amp - 20Amp
- Input power: 125/250Vac, 50Vdc, 50/60Hz
- Interrupt capacity: 1000Amp, 125Vac
- Dielectric strength: 1500Vac, 1 minute
- Resettable overload capacity: 10 times rated current
- Voltage drop: less than 0.25V
- Insulation resistance: 500 M. ohms
- Reset time: within 60 seconds

- Temperature rise: less than 65 degrees in Celsius, at 100% of rated current applied continuously at 25 degree in Celsius
- Calibration (at 25 degree)

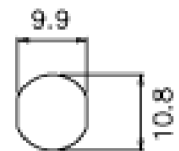
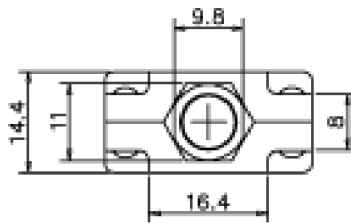
100% of rated current: hold, no-trip
150% of rated current: trip in 1 hour
200% of rated current: 5-25 sec. trip
300% of rated current: 1.6-4.8 sec. trip

[How to order](#)

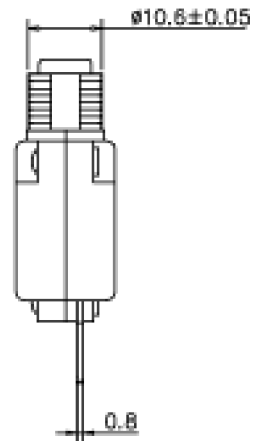
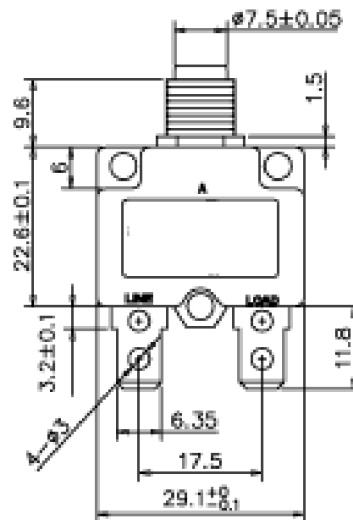
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i@

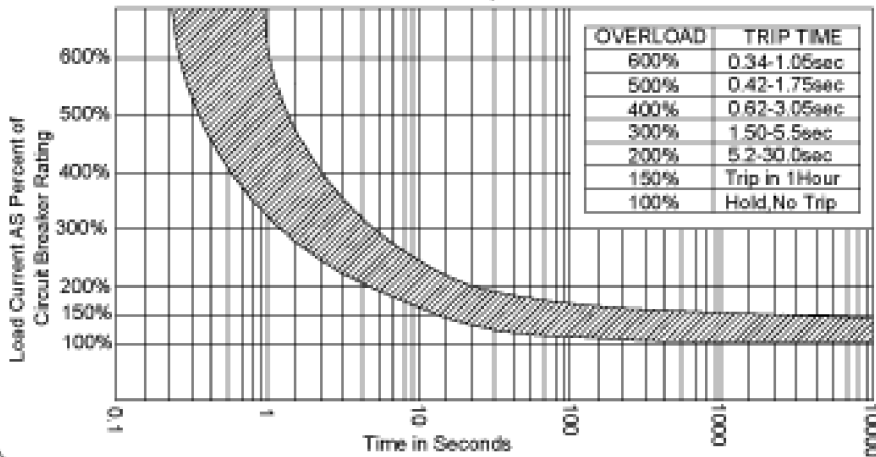
88-15-P1B14



Panel Cutout



88 Series 3A-20A Trip Time Curves



Max. Internal Resistance

3-4 Amp	<0.05	ohms
5-6 Amp	<0.04	ohms
7-8 Amp	<0.025	ohms
9-11 Amp	<0.02	ohms
12-13 Amp	<0.01	ohms
14-16 Amp	<0.008	ohms
17-25 Amp	<0.007	ohms

The time/current characteristic curve depends on the ambient temperature prevailing, in order to eliminate nuisance tripping.

Please multiply the current breaker current ratings by the derating factor shown below.

Ambient Temperature °C	-10	0	10	25	40	50	60
Multiplication Factor	1.5	1.4	1.2	1.00	0.85	0.7	0.8

98 SERIES

THERMAL CIRCUIT BREAKER, FROM 3A UP TO 50AMP
Wide selections of terminals, bushing and caps



WATER PROOF NUT



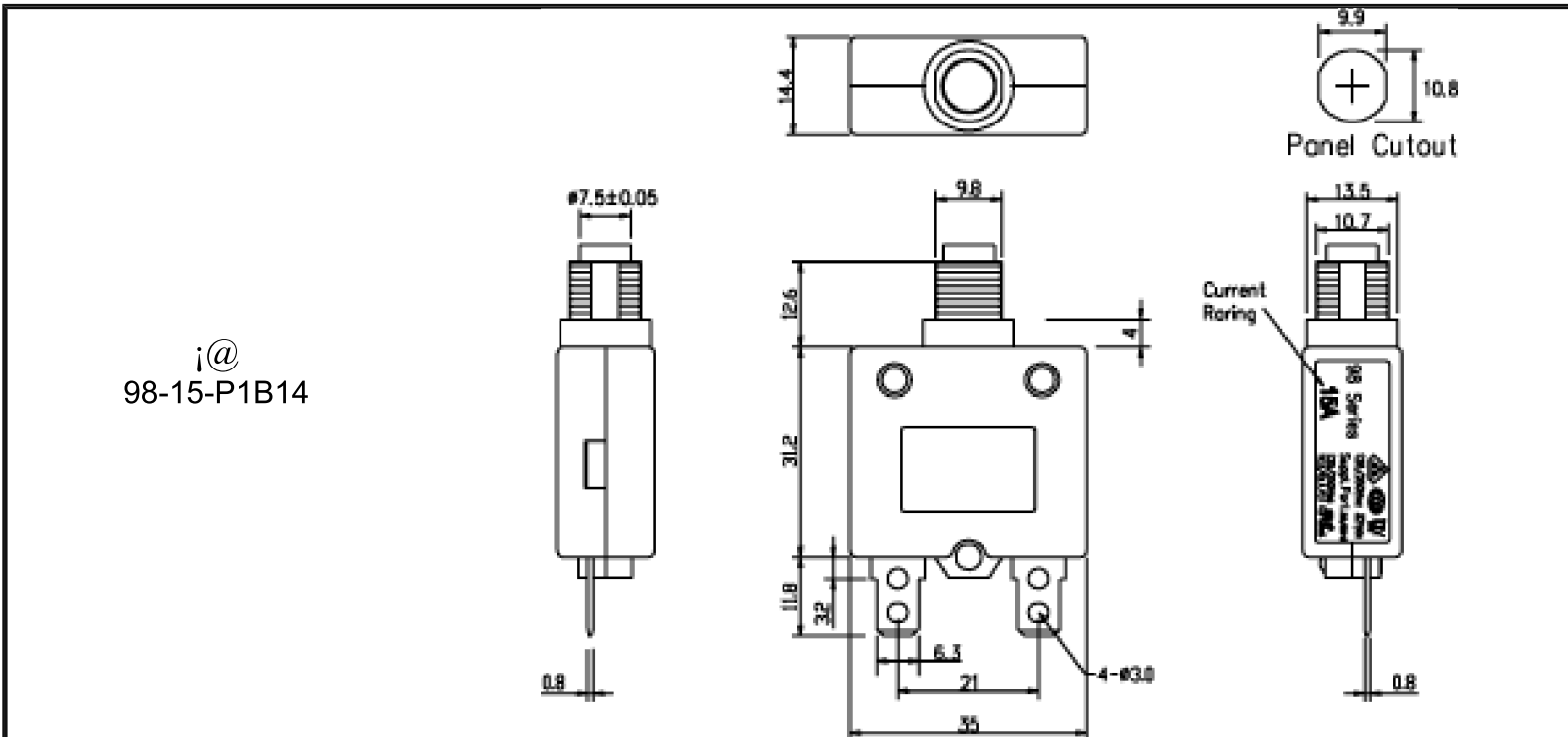
- Rating: 3.0Amp - 50.0Amp
- Input power: 125/250Vac, 50Vdc, 50/60Hz
- Interrupt capacity: 1000Amp, 125Vac; 200Amp, 250Vac
- Dielectric strength: 1500Vac, 1 minute
- Resettable overload capacity: 10 times rated current
- Voltage drop: less than 0.25V
- Insulation resistance: 500 M. ohms
- Reset time: within 60 seconds

- Temperature rise: less than 65 degrees in Celsius, at 100% of rated current applied continuously at 25 degree in Celsius
- Calibration (at 25 degree)

100% of rated current: hold, no-trip
135% of rated current: trip in 1 hour
200% of rated current: within 40 seconds trip
300% of rated current: within 10 seconds trip

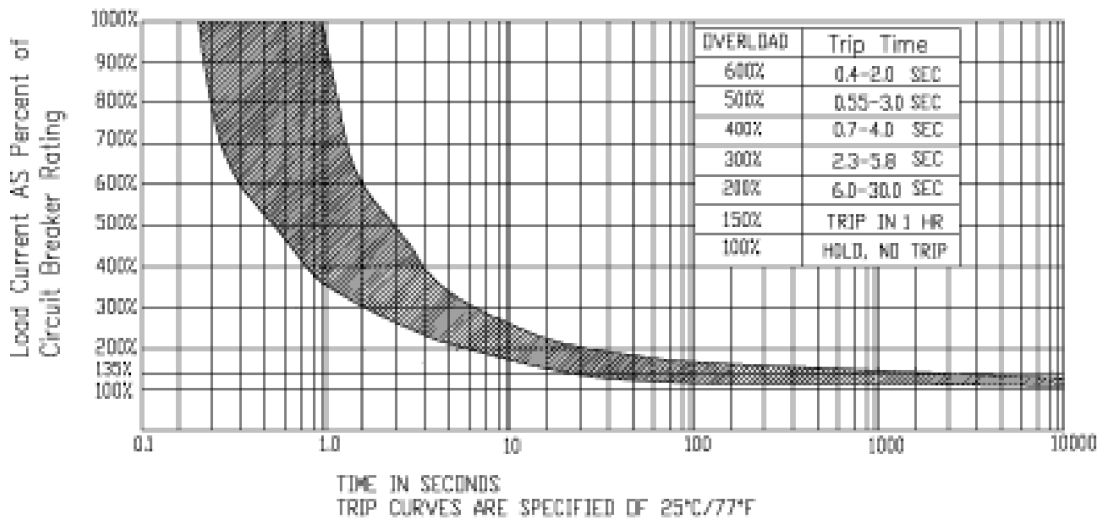
[How to order](#)

i@



i@
98-15-P1B14

TRIP TIME CURVES



Max. Internal Resistance

3-4 Amp	<0.05 ohms
5-6 Amp	<0.04 ohms
7-8 Amp	<0.025 ohms
9-11 Amp	<0.02 ohms
12-13 Amp	<0.01 ohms
14-16 Amp	<0.008 ohms
17-22 Amp	<0.007 ohms
23-29 Amp	<0.005 ohms
30-35 Amp	<0.004 ohms
36-43 Amp	<0.003 ohms
44-50 Amp	<0.0025 ohms

Derating Factor

	0°C	10°C	20°C	25°C	30°C	40°C	50°C	60°C
98 Series	X1.5	X1.3	X1.1	X1.0	X0.9	X0.8	X0.7	X0.6

i@

Order Guide 98-15-A1 B 1 4- B 0 B- N B

Series No.	(Table A)
Amp Rating	(Table B)
Bushing Type	(Table B)
Color of Button	(Table C)
Terminal Type	(Table D)
Voltage	3=125/250Vac, 4=125/250Vac 32Vdc(Tags), E=Client designation g=CSA US type
Mounting Nut Type	(Table E)
Waterproof Type	(Table F)
Nameplate Type	(Table G)
Terminal Finish	N=Plate with Nickel O=No plate
Body Type	B=Black W=White

(Table B) Bushing Type

Bushing type= A1	Bushing type= B1	Bushing type= A2	Bushing type= A3

Plastic	Plastic	Plastic	Plastic

(Table A) Standard Rating

03= 3.0A	15= 15.0A
3.5= 3.5A	16= 16.0A
04= 4.0A	17= 17.0A
05= 5.0A	18= 18.0A
06= 6.0A	20= 20.0A
07= 7.0A	22= 22.0A
08= 8.0A	25= 25.0A
09= 9.0A	30= 30.0A
10= 10.0A	35= 35.0A
11= 11.0A	40= 40.0A
12= 12.0A	45= 45.0A
13= 13.0A	50= 50.0A

(Table C) Color of Button Type

B	Black
W	White
R	Red
1	Black button w/ver White print
5	White button w/ver Black print
6	Red button w/ver White print

(Table D) Terminal Type

Type=1	Type=2	Type=3	Type=4	Type=5	Type=6	Type=7	Type=8

(Table E) Mounting Nut Type

Type=0	Type=P	Type=Q	Type=A	Type=B	Type=C	Type=4	Type=5	Type=6

(Table G) Nameplate Type

0	B	A	S

(Table F) Waterproof Type

0	Type=R	Type=F	Type=V	Type=U

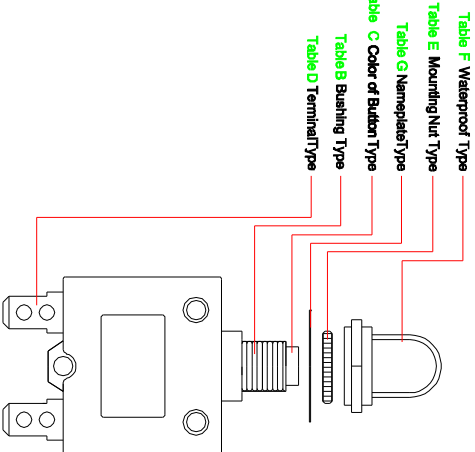


Table F Waterproof Type

Table E Mounting Nut Type

Table G Nameplate Type

Table C Color of Button Type

Table B Bushing Type

Table D Terminal Type

The photos listed below is the featured products of the month. To find more of our products, please click those items at the left column.
(Note: You may need to download Acrobat Reader to read some of the data.)



Switches

Rocker
Push
Slide
Toggle
Snap Action
Pull Chain
Rotary
Dip
Tact
Lighted Tact
Keylock
Anti-Vandal
i@
Socket
Breaker/Holder
Lampholder
Peripherals



- X7-series is designed and built specially for outdoor going experts seeking a perfect power switch to control their carriers that can be over the water or on a difficult territory.
- It can be offered with different options, from standard ON-OFF, ON-OFF-ON, to momentary functions.
- IP67 Protection level and 16A 125/250VAC, or 6~30VDC.



- PB07A is a switch perfectly suitable for customers to design in their control panels.
- With 4P1T, totaling 8 terminals, engineers can easily figure out a switching circuit meeting their design.
- Standard color is red or green, special color is available depending on qty.



- Build your safety devices by using our anti-vandal switches with various size, from M12, M16, M19 to M22.
- Optional for IP67 protection.
- Can be offered with LED indicator as a rim or in the center.



- Need power switches that can overcome the difficult terrain? Please take a look at our [X5-series](#) and [X7-series](#).
- Both are designed to meet a protection up to IP67 level.
- Can be built with different icon and LED indicator lights.
- A rating up to 20A can help you harness your power equipment.



- FR218 is a custom-built switch added with a twin-fuse holder.
- It is a product co-designed by Canal and its partner. And we are glad to launch it to the industry because it is a good safety production components.
- With exchangeable fuses, it offered a solider protection than the common bi-metal breakers.
- Switch is in a recessed position, offering good protection from accidental interference.



- TB-series is an UL approved toggle switches, perfectly suitable for outdoor applications.
- Rated 12A 125/250VAC sealed to meet IP67 protection level
- Widely used in rugged environment like Yacht, fields and transportation.



- RM mini-rocker switch is a newly custom built switch rated 16(4)A.
- Fitted with a rotating plastic arm actuator for custom design.



- MR5-series is what we understand the earth's smallest AC rocker switch with UL/VDE approval.
- square and round rockers up to 6A 125Vac, 3A 250VAC, [MR5](#), [MR5R](#)
- An extended MR-5 can be offered with laser-etched LED icons, suitable for your control panel's design.



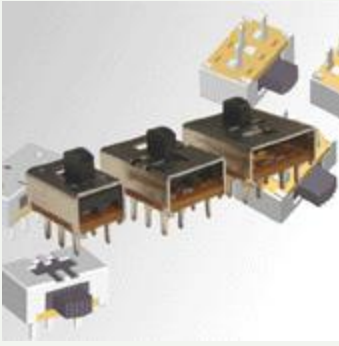
- Come to see various selections of rockers switches, from standard ones to custom-built
- Featuring mini-rocker switches capable of handling high inrush current up to 20A, TV6 or TV10 in UL, see [MR2](#), [MR2R](#), [MR6](#)
- Come to see the slimmest single pole double throw rocker, [MR3H](#)
- High inductance in VDE, [RH-series](#) up to 20(8)A and [R-series](#) up to 16(8)A



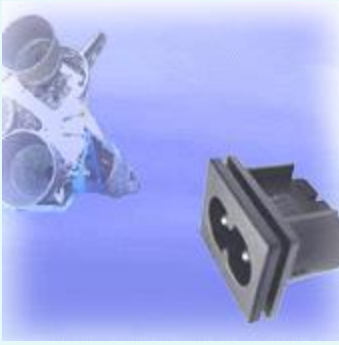
- Power push button switch is unique in that basically it has to handle a large current with a short travel distance. We are specialized in this know-how.
- Especially our [PS5 series](#) can have a rating up to 16(8)A 250Vac, it is a push switch surely will catch your attention!



- S-03F series are 2in1 or 3in1 AC power C14 socket with optional fuse holder or switch.
- AC power inlet C14 with fuse holder according to IEC/EN 60320
- Safety approved internationally by UL&CUL in North America, VDE in Europe, CCC in Asia.
- Switch or Fuse is for optional request.



- Select your slide switches that can fit various instrumental usages and domestic electric appliance.
- Variety of selections from mini-size of DC rating up to 4A 300VAC in UL listing.
- We can build different slide switches with wide selections of circuits, SP2T, SP4T, DP2T, DP4T, 3P3T, 4P3T



- EN 60320 AC Power inlet up to 15A 250VAC
- Various Inlets customized build for adaptors and power supply
- AC/DC power jack for CCD camera usages

ROCKER SWITCHES

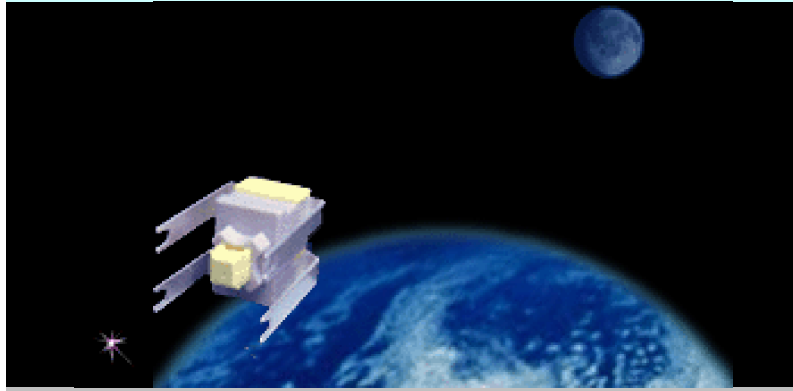


Model	Panel cutout	Features special
X5	37.0x21.1mm	X5 series heavy duty Sealed to IP67, for outdoor usage, up to 20(8)A
X7	13.8x30.2mm	X7 series heavy duty Sealed to IP67, for outdoor usage, On-Off-On
RM	custom	RM series , DPST, 16A mini-rocker with arm ring for custom actuation
MR6	13x19mm	MR6-series , DPST mini rocker up to 128A inrush withstanding
MR	13x19mm 19x22mm	MR-series , DPST, standard mini-rocker up to 16A(4), 125/250VAC
i@	∅20mm	MR~R DPST round mini rocker up to 16A(4), 125/250VAC
i@	6.8x19mm	MR-H half body, tiny rocker up to 16A(4), 125/250VAC
R	22x30mm	R-series standard outlook , up to 20A 125Vac, 16(4)A~250Vac T85/55
i@	22x30mm	R-series soft outlook up to 20A 125Vac, 16(8)A 250Vac T125/55
MR2	13x19mm	MR2 standard mini-rocker up to 20A 125VAC, 16(8)A~250Vac, TV6
i@	26x12mm	Extended MR2-series , 16(8)A 125/250Vac, TV6 optional
i@	∅20mm	MR2-R round-rocker, 20A 125VAC, 16(8)A~250Vac, TV6 SPST, SPDT
MR5	9.2x13.6mm	MR5- UL-approved 6A 125Vac, tiny size with laser-etched LED icons.
i@	∅15mm	MR5~R UL-recognized tiny rocker, 6A 125Vac, illumination optional.

Rocker

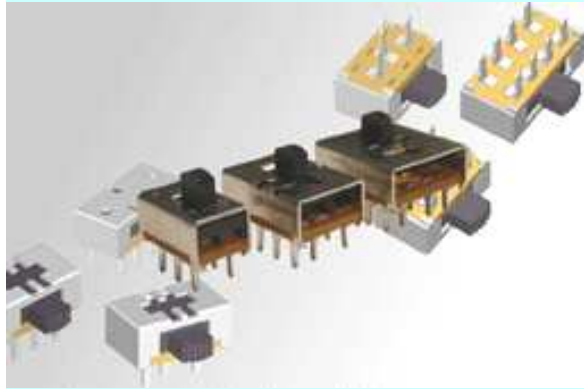
MR3		13x19mm	MR3 standard mini rocker with DPDT, 13A 125Vac, on-off-on
i@		∅20mm	MR3~R , round mini-rocker with DPDT, 13A 125Vac, on-off-on
i@		6.8x19mm	MR3-H , half body, smallest on-off-on rocker, up to 13A 125Vac
HB		13.8x28.9mm	HB-series , 2-colored-n1ob, 20A 125VAC, soft lighting available.
B		13.8x28.9mm	B-series traditional style, 15A 125Vac, wire leads optional
RH		11x30mm	RH-series , up to 128A inrush, 20A 125,20(8)A~250Vac T125/55
SW-273		∅13.3mm	SW-273 , world's smallest AC Round rocker switches SPST,DPDT
A		PCB	A-series miniature switch, solder, straight or right-angled terminal
MA		PCB	MA-series sub-miniature switch, solder, straight or right-angled terminal

PUSH SWITCH



Model	Mounting	Features
PS5	Snap-in PCB	16A 125Vac, 16(8), low profile push power switch
PB07A	PCB	Keyboard switches for precise instruments, 4P1T
PS17-1, 2&3	nut	push canopy switch 3A 125V"L"
PS17-5	nut	Off-momentary On, or On-Momentary Off
PS17-6	panel snap-in	Off-momentary On, or On-Momentary Off
PS18	nut	Up to 3A 250VAC, off-on, or off-on-on, with wires
PS19	Snap-in PCB	pushbutton switches up to 0.5A 30VDC
BS580,701,800,850	PCB	5.8x5.8, 7x7, 8x8, 8.5x8.5 , lock or momentary
PB01, 02	nut	on-off switch, with screw nuts attached
PBS	nut	on-off, momentary on or off, different knob
PS909L	PCB	DC30V 0.1A 2P2T, 4P2T, 6P2T available
PS908L	PCB	DC30V 2A 2P2T, push switch
PS056	screw	Double pole micro switches, UP TO 16A 250VAC
A	snap nut	Miniature push switch
AS	nut PCB	Sub-miniature push switch, momentary

SLIDE SWITCH



Model	Mounting	Features
SL13	PCB	Right angle PCB mounting, 1A 125VDC
SL13A	PCB	Right angle PCB mounting, 3A 250VDC
SL13B	screw/PCB	low cost slide switch, solder or PCB
SL13C	PCB	Double poles, solder or PCB mounting, 5A 125VDC
SL14	screw/PCB	12A slide switch, DP1T, 2T, 3T solder, PCB or right angle
SL15	screw/snapin	mini-size selector switch, 9.0mm in width
SL16	PCB	Slim slide switch for instrumental usage, all plastic housing
SL17	screw	DPST, ON-ON-OFF position
SL19	screw/PCB	Mini-slide switch for instrumental usages, DAP body
MSS	SMT	Miniature type Slide switch, up to 25mA 24VDC
SS008	PCB	DC Slide switches, 0.3A 30VDC
TS40	PCB	Sub-miniature slide switch for instrumental usages, DAP body

Toggle Switches










Series	Mounting	Features
TB	nut	Sealed toggle switch, IP67-level protection for rugged usages
TA	nut	Toggle switch with traditional outlook, wire attached
LZ	nut	Heavy toggle switch, up to 15A 125VAC 10A 250VAC (CUL)
ES	PCB	Surface mounting miniature toggle switch, IP67 washable
A	nut, PCB	Miniature toggle switch
MA	nut, PCB	Sub-miniature toggle switch

-
-







Snap action switches, different levers



Model	Mounting	Features
PS056 	screw	Double pole micro switches, up to 16A 250VAC
M142 	screw	22.5A 250VAC(UL/CUL)
M141T02 	screw	10A 125VAC, 10A 250 (UL)
M140T01 	screw	5A 125VAC, 5A 250VAC (UL), miniature
DM 	screw	1A 125VAC(UL), subminiature
SSM 	PCB	Detector switches, miniature micro switches
DS01,TPS 	PCB	Miniature detector switch










ROTARY SWITCHES, A VARIETY OF SELECTIONS



Model		Mounting	Features
RS		nut	2 position rotary switch, hex nut and wires attached
CS50-C-R		nut	3 position rotary switch, hex nut and wire attached
RS5		PCB	Rotary Switch up to 130mA 150V
SR26		nut	Rotary Switch up to 0.3A/ 125V
KNOB		nut	Cam Lever; ABS insert-molding with Steel for heavy industry usage
RM, RV, RH		PCB	Rotary dip switches, 10, 16 Steps, 4X1, 3X3, 3X2 terminals












DIP SWITCHES, SMT, through hole, half pitch



Model		Mounting	Features
DHN		SMT	mini-slim SMT, dip switches, half pitch
EM & EI & ES		SMT, DIP	End Stackable, SMT & Through Hole type , up to 25mA, 24VDC
RS & RSR		DIP	slide switches, 2.54mm pitch, up to 12 poles, 2.54mm
RP & RPL		DIP	piano switches, 2.54mm pitch, up to 12 poles
RM, RV, RH		PCB	10, 16 Steps, 4X1, 3X3, 3X2 terminals
DA		PCB	Slide type, right angle type; up to 25mA, 24VDC
TI		PCB/SMT	Tri-state low profile dip switch, 2.54mm pitch
SIP		PCB	Single In Line Package; Straight/Right Angle Terminal, 10mA, 5VDC
EPI & EPM		PCB/SMT	End Stackable & Piano Type; SMT/ Through Hole, 25mA, 24VDC





TACT SWITCHES, ultra miniature size available



Model		Mounting	Features
TMG523, TMG533		SMD	5X5, ultra small SMT tact switches
DTSH-3, DTSM-3		SMD, DIP	3.5X6 ultra miniature tact, through hole or SMT, mechanical contact
DTSHW6, DTSMW6		SMD, DIP	6X6, washable, through hole or SMT, mechanical contact
DTSH-2&6, DTSM-2&6		SMD, DIP	6X6 or 12x12, mechanical contact
DTST-6		DIP	6X6 tact switch, radial taping, mechanical contact
TS47-25MV160		SMD	4.7X3.5, ultra small tact, SMT, taping-packed, mechanical contact
SS204		SMD	6x3.6x2.5, Surface mount type tact switch, up to 50mA 12VDC
SS208		SMD	6.9*3.4*3.5, Surface Mount side-push type tact switch; up to 50mA 12VDC
SS302		SMD	3.9X2.9X2.0, LOW PROFILE, SMT TACT SWITCHES; up to 50mA 12VDC
SS304		SMD	4.7X3.5, ultra small tact, SMT, taping-packed, mechanical contact
SS307		SMD	3.3x3.3mm, SUPER MINIATURE TACT SWITCHES; UP TO 50mA 12VDC







Illuminated Tact Switches, Square or Round Body



Model		Mounting	Features
TS		PCB	10x10mm, LEN Effect LED illumination, round or square Cap
SPL12P		PCB	12x12mm body, square lighted
PB86		PCB	Single or twin LEDs
SPA		PCB	10x10mm body, one or two Led, round or square shape

KEYLOCK SWITCHES WITH HUNDREDS OF VARIATIONS



Model		Mounting	Features
NS102		12Ø, nut	SPST keylock switches
S106, 116		12Ø, nut	keylock switches up to 200 variations, SPST, SPDT
S1096		12Ø, nut	SPST keylock switches up to 20 variations, L shaped lever
S215, S216		19Ø, nut	keylock switches up to 4A 125VAC, momentary type available
S236		19Ø, nut	keylock switches up to 4A 125VAC
S286A, S286B		19Ø, nut	4A 125Vac, DPST, 150 Combinations

Anti-Vandal Push Switches



Model

Size

Features

[PBM12](#)

M12 UP TO 0.5 A 48VDC, Non-illuminated type

[PBM16](#)

M16 UP TO 2 A 36VDC, illuminated and non-illuminated type

[PBM19](#)

M19 UP TO 5A 250VAC, illuminated and non-illuminated type

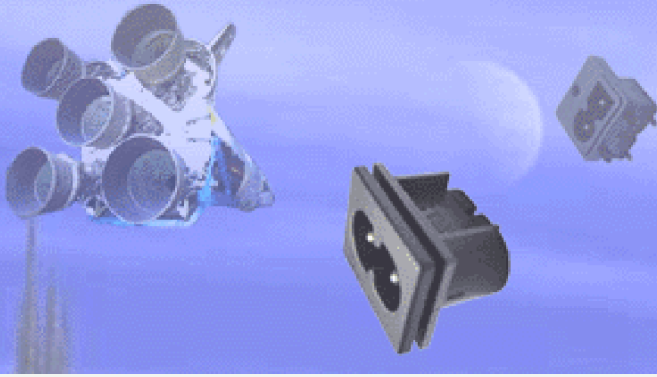
[PBM22](#)

M22 UP TO 5A 250VAC illuminated and non-illuminated type

-
-

-
-

AC DC Power Sockets and Jacks



Model	Mounting	Features
KD-101	-	Plug for universal battery charger
KT	screw or snap-in	AC power outlets up to 15A 250VAC
KS	screw or snap-in	EN60320 AC power C14 inlets, up to 15A 250VAC
KC	Cleat, PCB	EN60320 AC power C6 inlets, 3 pins-solder lug or wire leads
KP	snap-in	AC power inlets up to 15A 250VAC
KR	Cleat, PCB	EN60320 AC power C8 inlets, 2 pins-solder lug or wire leads
S-03F	screw or snap-in	2in1 or 3in1 AC power C14 socket with optional fuse holder or switch
SO-11-1	snap-in	Power outlet receptacle, American standards
EYC221	snap-in	AC DC socket for CCD camera
DS320B	Snap-in, PCB	DC power jack

Circuit Breakers and Fuse Holder



i@

Model	Mounting	Features special
FR218-series	Snap in	2in1 switch with fuse holders, 10A 250VAC, lighted or non-lighted
SS-001-series	Snap in	2in1 switch with breaker, 3A~20A, lighted or non-lighted
88-series	Screw or Snap in	Thermal circuit breaker, 3A~20A
98-series	Screw or Snap in	Thermal circuit breaker, 3A~50A
90-series	-	Thermal circuit breaker, 1A~10A, motor protector
91-series	-	Thermal circuit breaker, 1A~10A, motor protector
97-series	-	Thermal circuit breaker, 6A~15A, motor protector
FH1	Screw	Fuse Holder, fuse exchangeable if blow up, easy installing
FH-201	-	Fuse Holder, fuse exchangeable if blow up, easy installing

i@