

Photo Coupler Selection Guide

2023.3.20

OPP

Ver: 1.5

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Introduction

The photo coupler is composed of a light emitter and a receiver and Coupling with light as the medium. It can be applied to a circuit design that requires isolation between input and output. AOTE provides a series of photo coupler for customers to choose that meet the needs in terms of communication, switch control and power control functions. According to the different internal structure of the photo coupler, they are divided into five categories, and AOTE provide Various of packaging types.














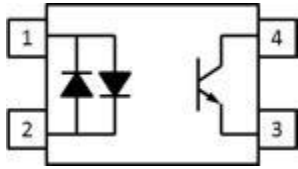
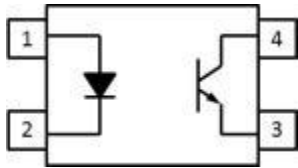
| | | | |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Transistor Output |  General Purpose Coupler  Darlington Transistor | Power Triac |  Photo Power Triac |
| Analog Output |  20Kbps  100Kbps  1Mbps | Solid State Relay |  General Purpose Solid State Relay |
| Digital Output |  5Mbps  10Mbps  15Mbps | IGBT Gate Driver |  IGBT/MOSFET Gate Driver |
| Triac Output |  Photo Triac | IPM |  Intelligent Power Module(IPM) interface |

Photo Coupler Product Lineup 1/2

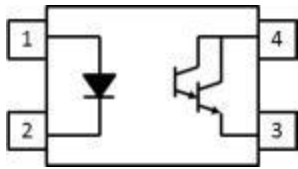
Transistor Output



AC Input

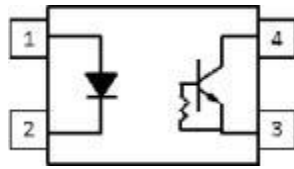


DC Input

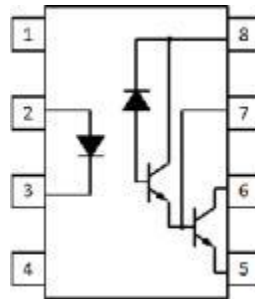


Darlington Transistor Output

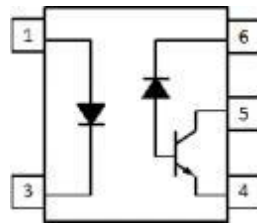
Analog Output



20Kbps

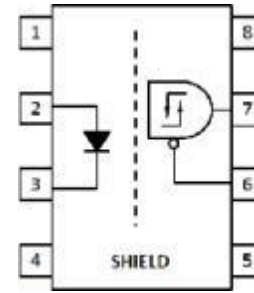


100Kbps

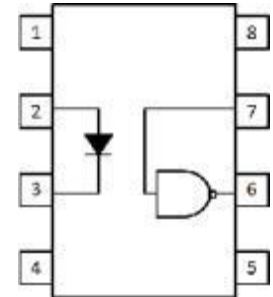


1Mbps

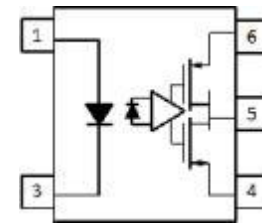
Digital Output



5Mbps



10Mbps

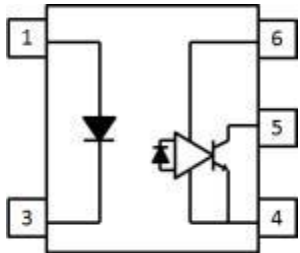


15Mbps

Press the coupler type above for detail information.

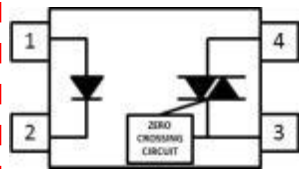
Photo Coupler Product Lineup 2/2

IPM

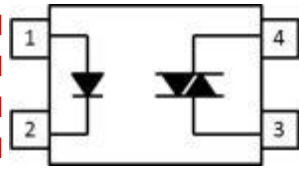


IPM interface

Triac Output

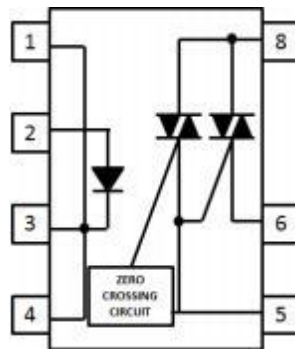


Zero Cross

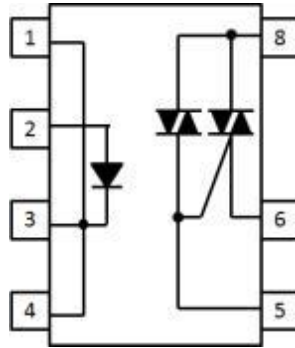


Random Phase

Power Triac

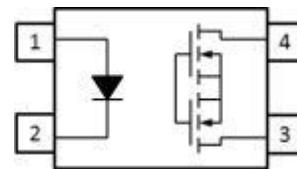


Zero Cross



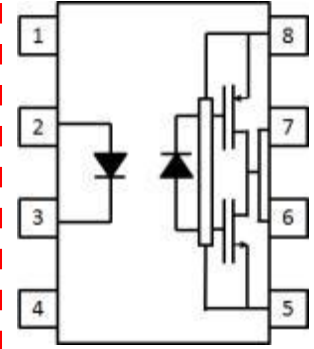
Random Phase

Solid State Relay



Form-A contact

IGBT Gate Driver



IGBT/MOSFET Gate Driver

Press the coupler type above for detail information.

Application Selection 1/2





Communication

-  Data transfer between two devices.
(High Speed Coupler, Photo Coupler)

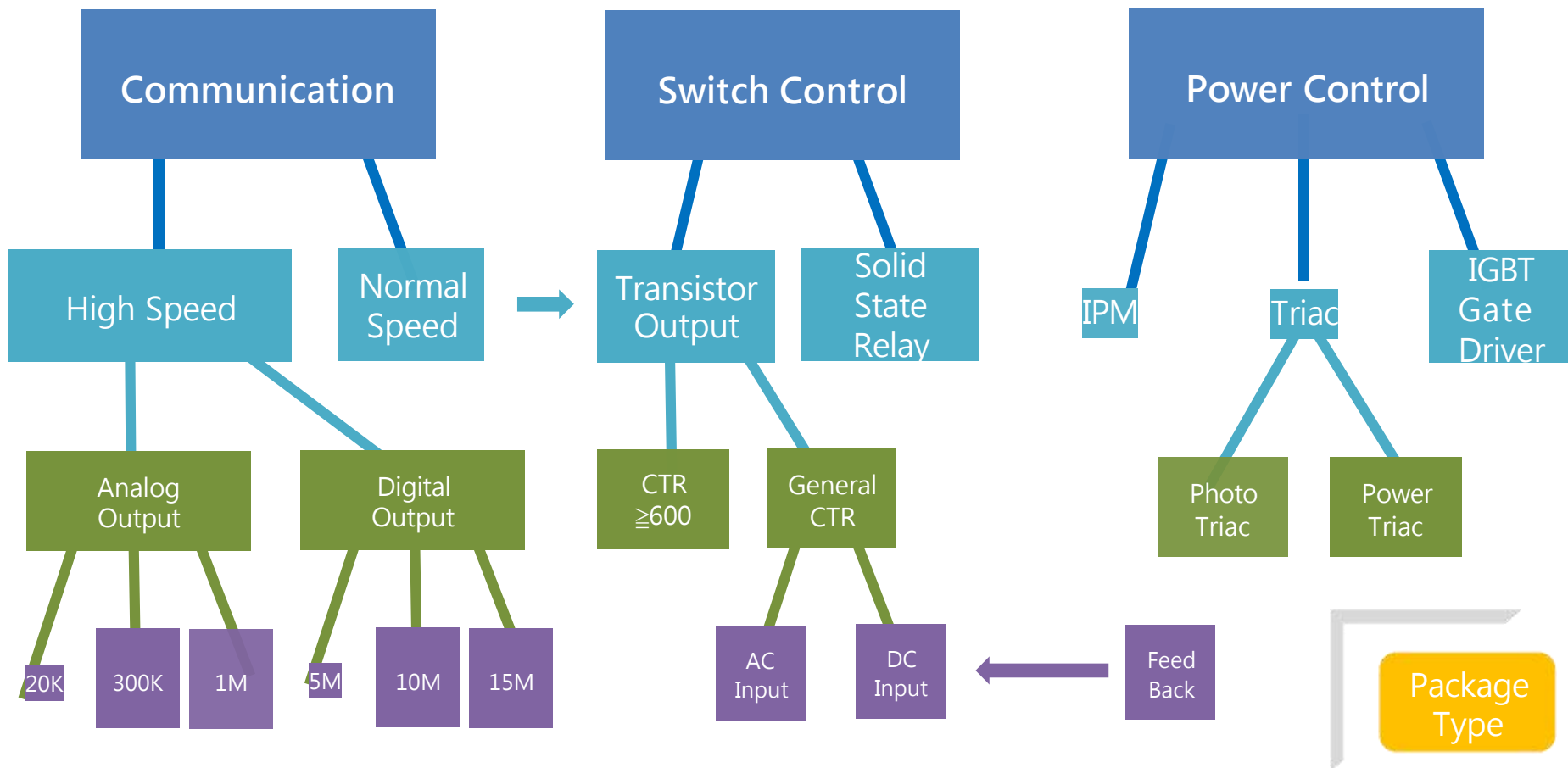
Switch Control

-  Driving the next device to turn-on or turn-off.
(Transistor & SSR)

Power Control

-  AC power control component(Triac)
-  Driving power IGBT(IGBT Gate Driver).
-  Power supply output voltage feedback
(Photo Coupler).
-  isolated interfacing to an intelligent power module
(IPM).

Application Selection 2/2



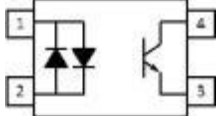
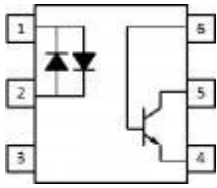
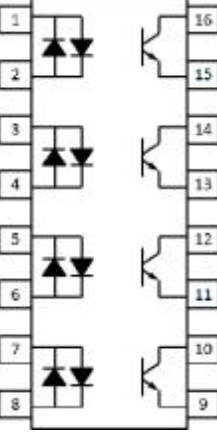
Select the most suitable Coupler model according to the selection flow and corresponding table.



Back

General Photo Coupler

Transistor Output(AC Input)

| Input Type | Pin Configuration | Package Type | Part Number | CTR | | | | $B V_{CE0}$ (V) | $V_{ISO@1min}$ (V_{rms}) |
|------------|------------------------------------------------------------------------------------|--------------|-------------|-------|---------|---------|---------------------------|--------------------|---------------------------------|
| | | | | Rank | Min.(%) | Max.(%) | @ I_F/V_{CE} (mA)(V) | | |
| AC |  | DIP,M,S1 | AT814 | - | 20 | 300 | ±1/5 | 80 | 5000 |
| | | | A | 50 | 150 | | | | |
| | | SOP-2.54 | AT354N | - | 20 | 300 | ±1/5 | 80 | 3750 |
| | | | A | 50 | 150 | | | | |
| |  | DIP, M, S1 | H11AX | H11A1 | 20 | - | ±10/10 | 80 | 5000 |
| | | | | H11A2 | 10 | - | | | |
| | | | | H11A3 | 50 | - | | | |
| | | | | H11A4 | 100 | - | | | |
| | | | | H11A5 | 30 | - | | | |
| |  | SSOP-1.27 | ATQ3H | - | 20 | 300 | ±1/5 | 80 | 3750 |

Transistor Output(DC Input)



| Input Type | Pin Configuration | Package Type | Part Number | CTR | | | | B V _{CE0} (V) | V _{ISO} @1 min. (V _{rms}) |
|------------|-------------------|--------------|-------------|------|---------|---------|-------------------------------------------|------------------------|----------------------------------------------|
| | | | | Rank | Min.(%) | Max.(%) | @ I _F /V _{CE} (mA)(V) | | |
| DC | | DIP, M, S1 | AT816 | - | 50 | 600 | 5/5 | 80 | 5000 |
| | | | | A | 80 | 160 | | | |
| | | | | B | 130 | 260 | | | |
| | | | | C | 200 | 400 | | | |
| | | | | D | 300 | 600 | | | |
| | | | | X | 100 | 200 | | | |
| | | | | Y | 150 | 300 | | | |
| | | | | I | 63 | 125 | 10/5 | | |
| | | | | J | 100 | 200 | | | |
| | | | | K | 160 | 320 | | | |
| | | | | I | 22 | - | 1/5 | | |
| | | | | J | 34 | - | | | |
| | | | K | 56 | - | | | | |
| | | | AT817 | - | 50 | 600 | 5/5 | 35 | 5000 |
| | | | | A | 80 | 160 | | | |
| | | | | B | 130 | 260 | | | |
| | | | | C | 200 | 400 | | | |
| | | | | D | 300 | 600 | | | |
| | | | | X | 100 | 200 | | | |
| | | | | Y | 150 | 300 | | | |

Transistor Output(DC Input)



| Input Type | Pin Configuration | Package Type | Part Number | CTR | | | $B V_{CE0}$ (V) | $V_{ISO@1min}$ (V_{rms}) | |
|------------|-------------------|--------------|-------------|--------|---------|---------|--------------------|---------------------------------|-----------------------------|
| | | | | Rank | Min.(%) | Max.(%) | | | @ I_F / V_{CE} (mA)(V) |
| DC | | LSOP-2.54 | AT101X | AT1010 | 50 | 600 | 5/5 | 80 | 5000 |
| | | | | AT1017 | 80 | 160 | | | |
| | | | | AT1018 | 130 | 260 | | | |
| | | | | AT1019 | 200 | 400 | 10/5 | | |
| | | | | AT1012 | 63 | 125 | | | |
| | | | | AT1013 | 100 | 200 | | | |
| | | | | AT1014 | 160 | 320 | 1/5 | | |
| | | | | AT1012 | 22 | - | | | |
| | | | | AT1013 | 34 | - | | | |
| | | AT1014 | 56 | - | | | | | |
| | | SOP-2.54 | AT357N | - | 50 | 600 | 5/5 | 80 | 3750 |
| | | | | A | 80 | 160 | | | |
| | | | | B | 130 | 260 | | | |
| | | | | C | 200 | 400 | | | |
| | | | | D | 300 | 600 | | | |
| | | | | E | 100 | 200 | | | |
| | | | | F | 150 | 300 | | | |

Transistor Output(DC Input)



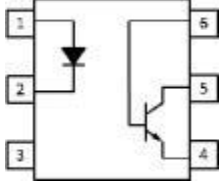
| Input Type | Pin Configuration | Package Type | Part Number | CTR | | | $B V_{CE0}$ (V) | $V_{ISO@1min}$ (V _{rms}) | | | |
|------------|-------------------|--------------|-------------|------|---------|---------|--------------------|---------------------------------------|---------------------------|----|------|
| | | | | Rank | Min.(%) | Max.(%) | | | @ I_F/V_{CE} (mA)(V) | | |
| DC | | LSOP-2.54 | AT357L | - | 60 | 300 | 1/5 | 70 | 5000 | | |
| | | | | (A) | 63 | 125 | | | | | |
| | | | | (B) | 100 | 200 | | | | | |
| | | SSOP-1.27 | AT3H7 | | | - | 50 | 600 | 5/5 | 80 | 3750 |
| | | | | | | A | 80 | 160 | | | |
| | | | | | | B | 130 | 260 | | | |
| | | | | | | C | 200 | 400 | | | |
| | | | | | | D | 300 | 600 | | | |
| | | | | | | E | 100 | 200 | | | |
| | | | | | | 10/5 | F | 150 | 300 | | |
| | | | | | | | H | 40 | 80 | | |
| | | | | | | | I | 63 | 125 | | |
| | | | | | | | J | 100 | 200 | | |
| | | K | 160 | 320 | | | | | | | |
| | | SOP-2.54 | AT121N | | | - | 50 | 400 | 5/5 | 80 | 3750 |
| | | | | | | B | 130 | 260 | | | |
| | | | | | | C | 200 | 400 | | | |
| | | CNY64/65 | CNY64/65 | | | - | 50 | 300 | 5/5 | 80 | 8200 |
| | | | | | | A | 63 | 125 | | | |
| | | | | | | B | 100 | 200 | | | |

Transistor Output(DC Input)



| Input Type | Pin Configuration | Package Type | Part Number | CTR | | | | B V _{CE0} (V) | V _{ISO@1min} (V _{rms}) | |
|------------|-------------------|--------------|-------------|--------|---------|---------|-------------------------------------------|------------------------|-------------------------------------------|----|
| | | | | Rank | Min.(%) | Max.(%) | @ I _F /V _{CE} (mA)(V) | | | |
| DC | | LSOP-1.27 | AT111X | AT1110 | 50 | 600 | 5/5 | 80 | 5000 | |
| | | | | AT1116 | 100 | 300 | | | | |
| | | | | AT1117 | 80 | 160 | | | | |
| | | | | AT1118 | 130 | 260 | | | | |
| | | | | AT1119 | 200 | 400 | | | | |
| | | | | AT1112 | 63 | 125 | 10/5 | | | |
| | | | | AT1113 | 100 | 200 | | | | |
| | | | | AT1114 | 160 | 320 | | | | |
| | | | | AT1112 | 22 | - | 1/5 | | | |
| | | | | AT1113 | 34 | - | | | | |
| | AT1114 | 56 | - | | | | | | | |
| | | DIP, M, S1 | 4N2X | 4N25 | 100 | - | 10/10 | 80 | 5000 | |
| | | | | 4N26 | 20 | - | | | | |
| | | | | 4N27 | 20 | - | | | | |
| | | | | 4N28 | 10 | - | | | | |
| | | | 4N3X | 4N35 | 100 | - | 10/10 | | | |
| | | | | 4N36 | 100 | - | | | | |
| | | | | 4N37 | 100 | - | | | | |
| | | | H11AX | 4N38 | 20 | - | | | | |
| | | | | H11A1 | 50 | - | 10/10 | | | 80 |
| H11A2 | | | | 20 | - | | | | | |
| H11A3 | 20 | - | | | | | | | | |
| H11A4 | 10 | - | | | | | | | | |
| H11A5 | 30 | - | | | | | | | | |

Transistor Output(DC Input)

| Input Type | Pin Configuration | Package Type | Part Number | CTR | | | | B V _{CE0} (V) | V _{ISO@1min.} (V _{rms}) |
|------------|-----------------------------------------------------------------------------------|----------------|-------------|---------|---------|---------|--------------------------------------------|------------------------|--------------------------------------------|
| | | | | Rank | Min.(%) | Max.(%) | @ I _F / V _{CE} (mA)(V) | | |
| DC |  | DIP,M S, S1 | TIL11X | TIL111 | ★ | - | 10/10 | 80 | 5000 |
| | | | | TIL117 | 50 | - | | | |
| | | DIP,M S, S1 | MCT2X | MCT2 | 20 | - | 10/10 | 80 | 5000 |
| | | | | MCT2E | 20 | - | | | |
| | | DIP,M S, S1 | CNY17-X | CNY17-1 | 40 | 80 | 10/5 | 80 | 5000 |
| | | | | CNY17-2 | 63 | 125 | | | |
| | | | | CNY17-3 | 100 | 200 | | | |
| | | | | CNY17-4 | 160 | 320 | | | |
| | | | | CNY17-1 | 13 | - | 1/5 | | |
| | | | | CNY17-2 | 22 | - | | | |
| | CNY17-3 | | | 34 | - | | | | |
| | CNY17-4 | | | 56 | - | | | | |
| | DIP,M S, S1 | CNY17F-X | CNY17F-1 | 40 | 80 | 10/5 | 80 | 5000 | |
| | | | CNY17F-2 | 63 | 125 | | | | |
| | | | CNY17F-3 | 100 | 200 | | | | |
| | | | CNY17F-4 | 160 | 320 | | | | |
| | | | CNY17F-1 | 13 | - | 1/5 | | | |
| | | | CNY17F-2 | 22 | - | | | | |
| | | | CNY17F-3 | 34 | - | | | | |
| | | | CNY17F-4 | 56 | - | | | | |

Transistor Output(DC Input)



| Input Type | Pin Configuration | Package Type | Part Number | CTR | | | | B V _{CE0} (V) | V _{ISO@1min.} (V _{rms}) |
|------------|-------------------|--------------|-------------|--------|---------|---------|-----------------------------------------------|---------------------------|-----------------------------------------------|
| | | | | Rank | Min.(%) | Max.(%) | @ I _F / V _{CE} (mA)(V) | | |
| DC | | DIP, M, S1 | AT827 | - | 50 | 600 | 5/5 | 80 | 5000 |
| | | SSOP-1.27 | ATD3H7 | - | 50 | 600 | 5/5 | 80 | 3750 |
| | | SOP-1.27 | ATD20X | ATD205 | 40 | 80 | 10/5 | 80 | 3750 |
| | | | | ATD206 | 63 | 125 | | | |
| | | | | ATD207 | 100 | 200 | | | |
| | | | | ATD205 | 13 | - | 1/5 | | |
| | | | | ATD206 | 22 | - | | | |
| | | | | ATD207 | 34 | - | | | |
| | | SOP-1.27 | ATD21X | ATD211 | 20 | - | 10/5 | 80 | 3750 |
| | | | | ATD213 | 100 | - | | | |
| | ATD217 | | | 100 | 120 | 1/5 | | | |
| | | SOP-1.27 | AT20X | AT205 | 40 | 80 | 10/5 | 80 | 3750 |
| | | | | AT206 | 63 | 125 | | | |
| | | | | AT207 | 100 | 200 | | | |
| | | | | AT208 | 160 | 320 | | | |
| AT21X | | | AT211 | 20 | - | 10/5 | 80 | 3750 | |
| | | | AT212 | 50 | - | | | | |
| | AT213 | 100 | - | | | | | | |

Transistor Output(DC Input)



| Input Type | Pin Configuration | Package Type | Part Number | CTR | | | $B V_{CE0}$ (V) | $V_{ISO@1min}$ (V_{rms}) | |
|------------|-------------------|--------------|-------------|------|---------|---------|--------------------|---------------------------------|---------------------------|
| | | | | Rank | Min.(%) | Max.(%) | | | @ I_F/V_{CE} (mA)(V) |
| DC | | DIP | AT847 | - | 50 | 600 | 5/5 | 80 | 5000 |
| | | SSOP-1.27 | ATQ3H7 | - | 50 | 600 | 5/5 | 80 | 3750 |

Transistor Output(DC Input, 125°C)



| Input Type | Pin Configuration | Package Type | Part Number | CTR | | | V_{CE0} (V) | $V_{ISO@1min.}$ (V_{rms}) | |
|------------|-------------------|--------------|-------------|---------|---------|---------|------------------|----------------------------------|------|
| | | | | Rank | Min.(%) | Max.(%) | | | |
| DC | | DIP, M, S1 | AT817H | - | 50 | 400 | 5/5 | 80 | 5000 |
| | | | | A | 80 | 160 | | | |
| | | | | B | 130 | 260 | | | |
| | | | | C | 200 | 400 | | | |
| | | SSOP-1.27 | AT3H7H | - | 80 | 260 | 5/5 | 80 | 3750 |
| | | | | A | 80 | 160 | | | |
| | | | | B | 130 | 260 | | | |
| | | SOP-2.54 | AT357NH | - | 50 | 600 | 5/5 | 80 | 3750 |
| | | | | A | 80 | 160 | | | |
| | | | | B | 130 | 260 | | | |
| | | | | C | 200 | 400 | | | |
| | | LSOP-2.54 | AT101XH | AT1010H | 50 | 600 | 5/5 | 80 | 5000 |
| | | | | AT1011H | 100 | 200 | | | |
| | | | | AT1017H | 80 | 160 | | | |
| | | | | AT1018H | 100 | 300 | | | |
| | | | | AT1019H | 200 | 400 | | | |



Back

Photo Darlington Coupler

Transistor Output(Darlington)



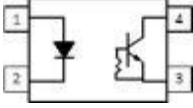
| Input Type | Pin Configuration | Package Type | Part Number | CTR | | | $B V_{CE0}$ (V) | $V_{IS0@1min}$ (V_{rms}) | |
|------------|-------------------|--------------|-------------|------|---------|---------|--------------------|---------------------------------|-----------------------------|
| | | | | Rank | Min.(%) | Max.(%) | | | @ I_F / V_{CE} (mA)(V) |
| DC | | DIP, M, S1 | AT815 | - | 600 | 7500 | 1/2 | 35 | 5000 |
| | | SOP-2.57 | AT452 | - | 1000 | - | 1/2 | 350 | 3750 |
| | | DIP, M, S1 | AT852 | - | 1000 | 15000 | 1/2 | 350 | 5000 |
| | | DIP, M, S1 | AT825 | - | 600 | 7500 | 1/2 | 40 | 5000 |

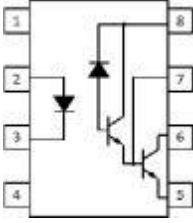


Back

High Speed Coupler

High Speed Coupler(20K 、 300Kbps)

| Data Rate | Pin Configuration | Package Type | Part Number | CTR | | | | $T_{on}(\mu s)$ | $T_{off}(\mu s)$ | $V_{iso}@1min$ (V_{rms}) |
|-----------|-----------------------------------------------------------------------------------|--------------|-------------|---------|---------|---------|--------------|-----------------|------------------|---------------------------------|
| | | | | Min.(%) | Typ.(%) | Max.(%) | @ I_F (mA) | Max. | Max. | |
| 20Kbps |  | DIP, MS, S1 | AT2514 | 50 | - | 200 | 5 | 25 | 25 | 5000 |

| Data Rate | Pin Configuration | Package Type | Part Number | CTR | | | | $T_{PHL}(\mu s)$ | $T_{PLH}(\mu s)$ | $V_{iso}@1min$ (V_{rms}) |
|-----------|-----------------------------------------------------------------------------------|--------------|-------------|---------|---------|---------|--------------|------------------|------------------|---------------------------------|
| | | | | Min.(%) | Typ.(%) | Max.(%) | @ I_F (mA) | Max. | Max. | |
| 300Kbps |  | SOP-1.27 | AT0700 | 300 | 2000 | - | 1.6 | 10 | 35 | 3750 |
| | | | AT0701 | 400 | 2500 | - | 0.5 | 25 | 60 | |
| | | | | 500 | 2000 | - | 1.6 | - | - | |
| | | DIP, MS, S1 | 6N138 | 300 | 2000 | - | 1.6 | 10 | 35 | 5000 |
| | | | 6N139 | 400 | 2500 | - | 0.5 | 25 | 60 | |
| | | | | 500 | 2000 | - | 1.6 | - | - | |

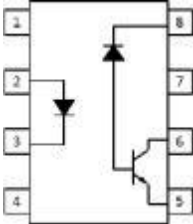
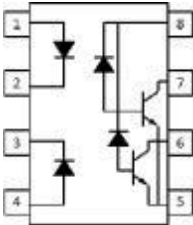
High Speed Coupler(1Mbps)



| Data Rate | Pin Configuration | Package Type | Part Number | CTR | | | | T _{PHL(+s)} Max. | T _{PLH(+s)} Max. | V _{ISO@1min} (V _{rms}) | |
|-----------|-------------------|--------------|-------------|----------|---------|---------|----------------------|------------------------------|------------------------------|----------------------------------------------|-----|
| | | | | Min.(%) | Typ.(%) | Max.(%) | @I _F (mA) | | | | |
| 1Mbps | | SOP-1.27 | ATM452 | 20 | - | 50 | 16 | 0.8 | 0.8 | 3750 | |
| | | | ATM453 | | | | | | | | |
| | | | ★ATM453L | 20 | - | 50 | 16 | 0.8 | 0.8 | 3750 | |
| | | P-1.27 | ATS511 | 20 | - | - | 16 | 1.5 | 1.5 | 5000 | |
| | | | | SOP-1.27 | AT0500 | 7 | - | 50 | 16 | 1.5 | 1.5 |
| | AT0501 | 19 | | | 0.8 | 0.8 | | | | | |
| | ★AT050L | 7 | | | - | 50 | 16 | 2 | 2 | 3750 | |
| | | DIP, M | 6N135 | 7 | - | 50 | 16 | 1.5 | 1.5 | 5000 | |
| | | | | S, S1 | 6N136 | 19 | - | 50 | 16 | 0.8 | 0.8 |
| | | | | | DIP, S | ATW135 | 7 | - | 50 | 16 | 1.5 |
| | ATW136 | 19 | - | 0.8 | | 0.8 | | | | | |

Note) ★ is Vcc pin support 3.3V.

High Speed Coupler(1Mbps)

| Data Rate | Pin Configuration | Package Type | Part Number | CTR | | | | T _{PHL(+s)} Max. | T _{PLH(+s)} Max. | V _{ISO@1min} (V _{rms}) |
|-----------|-----------------------------------------------------------------------------------|--------------|-------------|---------|---------|---------|----------------------|------------------------------|------------------------------|----------------------------------------------|
| | | | | Min.(%) | Typ.(%) | Max.(%) | @I _F (mA) | | | |
| 1Mbps |  | SOP-1.27 | AT0452 | 19 | - | 50 | 16 | 0.8 | 0.8 | 3750 |
| | | | AT0453 | | | | | | | |
| | | DIP, MS, S1 | AT4502 | 19 | - | 50 | 16 | 0.8 | 0.8 | 5000 |
| | | | AT4503 | | | | | | | |
| | | | AT4504 | | | | | | | |
| | DIP, S | ATW4503 | 19 | - | 50 | 16 | 0.8 | 0.8 | 5000 | |
| |  | SOP-1.27 | AT0530 | 7 | - | 50 | 16 | 1.5 | 1.5 | 3750 |
| | | | AT0531 | 19 | | | | 0.8 | 0.8 | |
| | | DIP, MS, S1 | AT2530 | 7 | - | 50 | 16 | 1.5 | 1.5 | 5000 |
| | | | AT2531 | 19 | | | | 0.8 | 0.8 | |

High Speed Coupler(5Mbps)



| Data Rate | Pin Configuration | Package Type | Part Number | I _{cc} (H/L) (mA) Max. @V _{cc} =5.5V | I _F (mA) Max. | T _{PHL} (ns) Max. | T _{PLH} (ns) Max. | V _{ISO} @1min.(V _{rms} , |
|-----------|-------------------|-----------------|-------------|-----------------------------------------------------------|-----------------------------|-------------------------------|-------------------------------|--------------------------------------------|
| 5Mbps | | DIP, M S, S1 | AT2200 | 4.5/6 | 1.6 | 300 | 300 | 5000 |
| | | | AT2201 | | | | | |
| | | | AT2202 | | | | | |

High Speed Coupler(10Mbps)



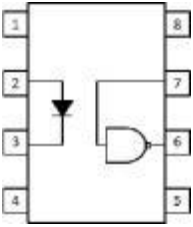
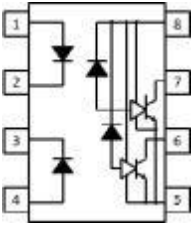
| Data Rate | Pin Configuration | Package Type | Part Number | I _{cc} (H/L) (mA) Max. @V _{cc} =5.5V | I _F (mA) Max. | T _{PHL} (ns) Max. | T _{PLH} (ns) Max. | V _{ISO} @1min.(V _{rms}) |
|-----------------|-------------------|--------------|-------------|-----------------------------------------------------------|-----------------------------|-------------------------------|-------------------------------|--------------------------------------------|
| 10Mbps | | SOP-1.27 | ATM600 | 9/10 | 5 | 100 | 100 | 3750 |
| | | | ATM601 | | | | | |
| | | | ATM611 | | | | | |
| | | P-1.27 | ATS611 | 13/15 | 5 | 100 | 100 | 5000 |
| | | SOP-1.27 | AT0600 | 10/13 | 5 | 75 | 75 | 3750 |
| | | | AT0601 | | | | | |
| | | | AT0611 | | | | | |
| SOP-1.27 | ★AT060L | 10/13 | 5 | 75 | 75 | 3750 | | |
| DIP, M S, S1 | ★AT260L | 10/13 | 5 | 75 | 75 | 5000 | | |

Note) ★ is V_{cc} pin support 3.3V.



Back

High Speed Coupler(10Mbps)

| Data Rate | Pin Configuration | Package Type | Part Number | I _{cc} (H/L) (mA) Max. @V _{cc} =5.5V | I _F (mA) Max. | T _{PHL} (ns) Max. | T _{PLH} (ns) Max. | V _{ISO} @1min.(V _{rms}) |
|-----------|-----------------------------------------------------------------------------------|------------------|-------------|-----------------------------------------------------------|-----------------------------|-------------------------------|-------------------------------|--------------------------------------------|
| 10Mbps |  | DIP, M S, S1 | 6N137 | 10/13 | 5 | 75 | 75 | 5000 |
| | | DIP, S (WB) | ATW137 | 10/13 | 5 | 100 | 100 | 5000 |
| | | DIP, M S, S1 | AT2601 | 10/13 | 5 | 75 | 75 | 5000 |
| | | | AT2611 | | | | | |
| | DIP, S (WB) | ATW2601 | 10/13 | 5 | 100 | 100 | 5000 | |
| | | ATW2611 | | | | | | |
| |  | SOP-1.27 | AT0630 | 18/21 | 5 | 100 | 100 | 3750 |
| | | | AT0631 | | | | | |
| DIP, S | | AT2630 AT2631 | 18/21 | 5 | 100 | 100 | 5000 | |

Note) WB is WIDE BODY package.

High Speed Coupler(15Mbps)



| Data Rate | Pin Configuration | Package Type | Part Number | I _{cc} (H/L) (mA) Max. @V _{cc} =5.5V | I _F (mA) Max. | T _{PHL} (ns) Max. | T _{PLH} (ns) Max. | V _{ISO} @1min.(V _{rms}) |
|-----------|-------------------|--------------|-------------|-----------------------------------------------------------|-----------------------------|-------------------------------|-------------------------------|--------------------------------------------|
| 15Mbps | | SOP-1.27 | ★ATM80L | 6/6 | 5 | 65 | 65 | 3750 |
| | | | ★ATM81L | | | | | |
| | | SOP-1.27 | ★AT083L | 8/8 | 5 | 60 | 60 | 3750 |
| | | | ★AT086L | | | | | |

Note) ★ is V_{cc} pin support 3.3V.



Back

Intelligent Power Module

Intelligent Power Module (1Mbps)



| Data Rate | Pin Configuration | Package Type | Part Number | I _{cc} (H/L) (mA) Max. @V _{cc} =5.5V | I _{TH} (mA) Max. | T _{PHL} (ns) TYP. | T _{PHL} (ns) TYP. | V _{ISO} @1min. (V _{rms}) |
|-----------|-------------------|--------------|-------------|--------------------------------------------------------|---------------------------|----------------------------|----------------------------|---------------------------------------------|
| 1Mbps | | SOP-1.27 | ATM456 | 1.5/TBD | 5 | 150 | 450 | 3750 |



Back

Photo Triac

Photo Triac(Zero Cross)



| Pin Configuration | Type | Package Type | Part Number | I_{FT} (mA) | $I_{T(RMS)}$ (mA) | I_{TSM} (A) | V_{DRM} (V) | dv/dt min. (V/ μ s) | V_{ISO} @1 min. (V_{rms}) |
|-------------------|------------|--------------|-------------|---------------|-------------------|---------------|---------------|-------------------------|---------------------------------|
| | Zero corss | DIP, M S, S1 | ATT3041 | 15 | 100 | 1 | 400 | 1000 | 5000 |
| | | | ATT3042 | 10 | | | | | |
| | | | ATT3043 | 5 | | | | | |
| | | | ATT3061 | 15 | 100 | 1 | 600 | 1000 | 5000 |
| | | | ATT3062 | 10 | | | | | |
| | | | ATT3063 | 5 | | | | | |
| | | | ATT3081 | 15 | 100 | 1 | 800 | 600 | 5000 |
| | | | ATT3082 | 10 | | | | | |
| ATT3083 | 5 | | | | | | | | |
| | Zero corss | DIP, M S, S1 | AT3031(P5) | 15 | 100 | 1 | 250 | 1000 | 5000 |
| | | | AT3032(P5) | 10 | | | | | |
| | | | AT3033(P5) | 5 | | | | | |
| | | | AT3041(P5) | 15 | 100 | 1 | 400 | 1000 | 5000 |
| | | | AT3042(P5) | 10 | | | | | |
| | | | AT3043(P5) | 5 | | | | | |
| | | | AT3061(P5) | 15 | 100 | 1 | 600 | 1000 | 5000 |
| | | | AT3062(P5) | 10 | | | | | |
| | | | AT3063(P5) | 5 | | | | | |
| | | | AT3081(P5) | 15 | 100 | 1 | 800 | 600 | 5000 |
| | | | AT3082(P5) | 10 | | | | | |
| | | | AT3083(P5) | 5 | | | | | |

Note) The condition of I_{TSM} is Pulse width=100us, 120pps

Photo Triac(Zero Cross)



| Pin Configuration | Type | Package Type | Part Number | $I_{FT}(mA)$ | $I_{T(RMS)}(mA)$ | $I_{TSM}(A)$ | $V_{DRM}(V)$ | dv/dt min. (V/ μ s) | V_{ISO} @1min. (V_{rms}) |
|-------------------|---------------|-----------------|-------------|--------------|------------------|--------------|--------------|-------------------------|--------------------------------|
| | Zero corss | DIP, M S, S1 | AT3031 | 15 | 100 | 1 | 250 | 1000 | 5000 |
| | | | AT3032 | 10 | | | | | |
| | | | AT3033 | 5 | | | | | |
| | | | AT3041 | 15 | 100 | 1 | 400 | 1000 | 5000 |
| | | | AT3042 | 10 | | | | | |
| | | | AT3043 | 5 | | | | | |
| | | | AT3061 | 15 | 100 | 1 | 600 | 1000 | 5000 |
| | | | AT3062 | 10 | | | | | |
| | | | AT3063 | 5 | | | | | |
| | | | AT3081 | 15 | 100 | 1 | 800 | 600 | 5000 |
| | | | AT3082 | 10 | | | | | |
| | | | AT3083 | 5 | | | | | |
| | Zero corss | SOP-2.54 | ATM3042 | 10 | 100 | 1 | 400 | 1000 | 3750 |
| | | | ATM3043 | 5 | | | | | |
| | | | ATM3044 | 3 | | | | | |
| | | | ATM3062 | 10 | 100 | 1 | 600 | 1000 | 3750 |
| | | | ATM3063 | 5 | | | | | |
| | | | ATM3064 | 3 | | | | | |
| | | | ATM3082 | 10 | 100 | 1 | 800 | 1000 | 3750 |
| | | | ATM3083 | 5 | | | | | |
| ATM3084 | 3 | | | | | | | | |

Note) The condition of I_{TSM} is Pulse width=100us, 120pps

Photo Triac(Random Phase)



| Pin Configuration | Type | Package Type | Part Number | $I_{FT}(mA)$ | $I_{T(RMS)}(mA)$ | $I_{TSM}(A)$ | $V_{DRM}(V)$ | $dv/dt \text{ min.}(V/\mu s)$ | $V_{ISO} @1min. (V_{rms})$ |
|-------------------|--------------|-----------------|-------------|--------------|------------------|--------------|--------------|-------------------------------|----------------------------|
| | Random Phase | DIP, M S, S1 | ATT3021 | 15 | 100 | 1 | 400 | 100 | 5000 |
| | | | ATT3022 | 10 | | | | | |
| | | | ATT3023 | 5 | | | | | |
| | | | ATT3051 | 15 | 100 | 1 | 600 | 1000 | 5000 |
| | | | ATT3052 | 10 | | | | | |
| | | | ATT3053 | 5 | | | | | |
| | Random Phase | DIP, M S, S1 | AT3011(P5) | 15 | 100 | 1 | 250 | 100 | 5000 |
| | | | AT3012(P5) | 10 | | | | | |
| | | | AT3013(P5) | 5 | | | | | |
| | | | AT3021(P5) | 15 | 100 | 1 | 400 | 100 | 5000 |
| | | | AT3022(P5) | 10 | | | | | |
| | | | AT3023(P5) | 5 | | | | | |
| | | | AT3051(P5) | 15 | 100 | 1 | 600 | 1000 | 5000 |
| | | | AT3052(P5) | 10 | | | | | |
| | | | AT3053(P5) | 5 | | | | | |
| | | | AT3071(P5) | 15 | 100 | 1 | 800 | 1500 | 5000 |
| | | | AT3072(P5) | 10 | | | | | |
| | | | AT3073(P5) | 5 | | | | | |

Note) The condition of I_{TSM} is Pulse width=100us, 120pps

Photo Triac(Random Phase)



| Pin Configuration | Type | Package Type | Part Number | I_{FT} (mA) | $I_{T(RMS)}$ (mA) | I_{TSM} (A) | V_{DRM} (V) | dv/dt min. (V/ μ s) | V_{ISO} @1min. (V_{rms}) |
|-------------------|--------------|---------------|-------------|---------------|-------------------|---------------|---------------|-------------------------|--------------------------------|
| | Random Phase | DIP, M, S, S1 | AT3011 | 15 | 100 | 1 | 250 | 100 | 5000 |
| | | | AT3012 | 10 | | | | | |
| | | | AT3013 | 5 | | | | | |
| | | | AT3020 | 30 | 100 | 1 | 400 | 100 | 5000 |
| | | | AT3021 | 15 | | | | | |
| | | | AT3022 | 10 | | | | | |
| | | | AT3023 | 5 | | | | | |
| | | | AT3051 | 15 | 100 | 1 | 600 | 1000 | 5000 |
| | | | AT3052 | 10 | | | | | |
| | | | AT3053 | 5 | | | | | |
| | | | AT3071 | 15 | 100 | 1 | 800 | 1000 | 5000 |
| | | | AT3072 | 10 | | | | | |
| AT3073 | 5 | | | | | | | | |
| | Random Phase | SOP-2.54 | ATM3022 | 10 | 100 | 1 | 400 | 100 | 5000 |
| | | | ATM3023 | 5 | | | | | |
| | | | ATM3024 | 3 | | | | | |
| | | | ATM3052 | 10 | 100 | 1 | 600 | 1000 | 5000 |
| | | | ATM3053 | 5 | | | | | |
| | | | ATM3054 | 3 | | | | | |

Note) The condition of I_{TSM} is Pulse width=100us, 120pps



Back

Power Triac

Power Triac



| Pin Configuration | Type | Package Type | Part Number | I_{FT} (mA) | $I_{T(RMS)}$ (A) | I_{TSM} (A) | V_{DRM} (V) | dv/dt min. (V/ μ s) | V_{ISO} (V_{RMS}) |
|-------------------|--------------|--------------|-------------|---------------|------------------|---------------|---------------|-------------------------|-------------------------|
| | Zero Cross | DIP, M, S1 | ATR0213 | 10 | 0.3 | 3 | 600 | 200 | 5000 |
| | | | ATR1213 | | 0.6 | 6 | | | |
| | | | ATR2213 | | 0.9 | 9 | | | |
| | | | ATR3213 | | 1.2 | 12 | | | |
| | Random Phase | DIP, M, S1 | ATR0223 | 10 | 0.3 | 3 | 600 | 200 | 5000 |
| | | | ATR1223 | | 0.6 | 6 | | | |
| | | | ATR2223 | | 0.9 | 9 | | | |
| | | | ATR3223 | | 1.2 | 12 | | | |

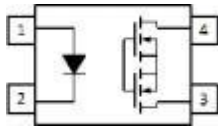
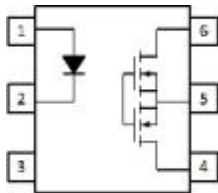
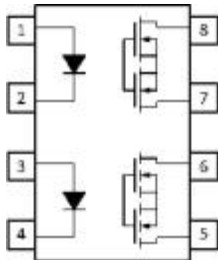


Back

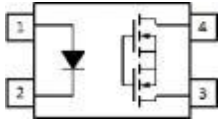
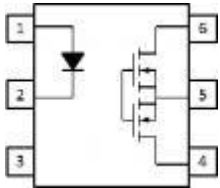
Solid State Relay

Solid State Relay



| Pin Configuration | Package Type | Part Number | I_L (mA) | V_L (V) | $R_{d(on)}$ (Ω) | I_{Lpeak} (A) | $I_{F(on)}$ (mA) | $I_{F(off)}$ (mA) | T_{on} (ms) | T_{off} (ms) |
|------------------------------------------------------------------------------------|------------------|-------------|------------|-----------|--------------------------|-----------------|------------------|-------------------|---------------|----------------|
| | | | Max. | Max. | Max. | Max. | Max. | Min. | Max. | Max. |
|  | DIP, M S1 | AT406A | 550 | 60 | 2.5 | 1.2 | 5 | 0.4 | 3 | 0.5 |
| | | AT425A | 180 | 250 | 15 | 0.5 | | | | |
| | | AT440A | 120 | 400 | 30 | 0.3 | | | | |
| | | AT460A | 50 | 600 | 70 | 0.15 | | | | |
| | SOP Mini-Flat | ATM425A | 180 | 250 | 15 | 0.5 | 5 | 0.2 | 0.5 | 0.5 |
| | | ATM440A | 120 | 400 | 30 | 0.3 | | | | |
| ATM460A | | 50 | 600 | 70 | 0.15 | | | | | |
|  | DIP, S1 | AT606A | 550 | 60 | 2.5 | 1.2 | 3 | 0.4 | 3 | 0.5 |
| | | AT625A | 180 | 250 | 15 | 0.5 | | | | |
| | | AT640A | 120 | 400 | 30 | 0.3 | | | | |
| | | AT660A | 50 | 600 | 70 | 0.15 | | | | |
|  | DIP, S1 | AT840A | 120 | 400 | 30 | 0.3 | 5 | 0.4 | 3 | 0.5 |
| | | AT860A | 50 | 600 | 70 | 0.15 | | | | |

Solid State Relay($I_L = 1A$ Up)

| Pin Configuration | Package Type | Part Number | I_L (A) Max. | V_L (V) Max. | $R_{d(on)}$ (Ω) Max. | I_{Lpeak} (A) Max. | $I_{F(on)}$ (mA) Max. | $I_{F(off)}$ (mA) Min. | T_{on} (ms) Max. | T_{off} (ms) Max. |
|-----------------------------------------------------------------------------------|------------------|-------------|-------------------|-------------------|----------------------------------|-------------------------|--------------------------|---------------------------|-----------------------|------------------------|
|  | SOP Mini-Flat | ATM406A | 1 | 60 | 2.5 | 2 | 5 | 0.1 | 5 | 0.5 |
|  | DIP, S1 | AT606A3 | 2.5 | 60 | 1 | - | 5 | 0.4 | 5 | 0.5 |
| | | AT603A5 | 5 | 30 | 1 | - | | | | |



Back

IGBT Gate Driver

IGBT Gate Driver



| I_{OP} (A) | Pin Configuration | Package Type | Part Number | I_{CC} (mA) Max. | I_{FLH} (mA) Max. | CMTI (kV/ μ s) Min. | T_{PHL} (ns) Max. | T_{PHL} (ns) Max. | V_{ISO} (V_{RMS}) |
|--------------|-------------------|--------------|-------------|-----------------------|------------------------|-------------------------------|------------------------|------------------------|----------------------------|
| 2.5 | | P | ATS3120 | 3.2 | 5 | 25 | 300 | 300 | 5000 |
| 0.6 | | | ATS3140 | | | 15 | 400 | 400 | |
| 1 | | | ATS3150 | | | 15 | 400 | 400 | |
| 2.5 | | DIP, S1 | AT3120 | 3.2 | 5 | 25 | 300 | 300 | 5000 |



Back

Package Type


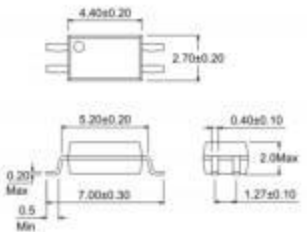
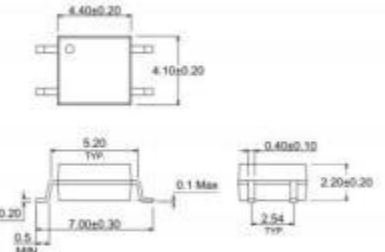
4PIN Package Type(1/2)



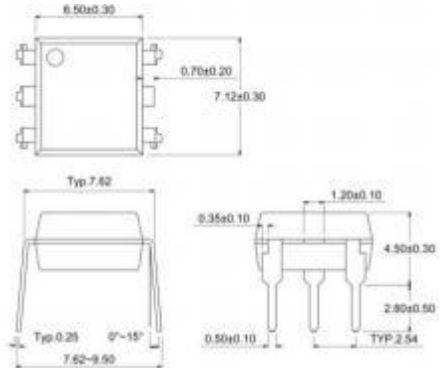
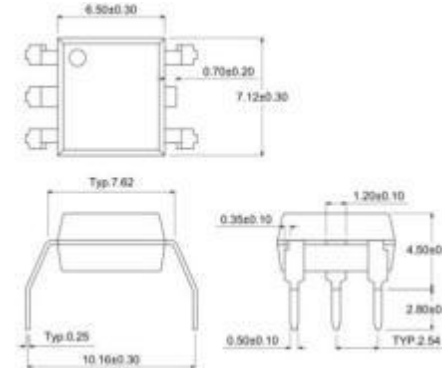
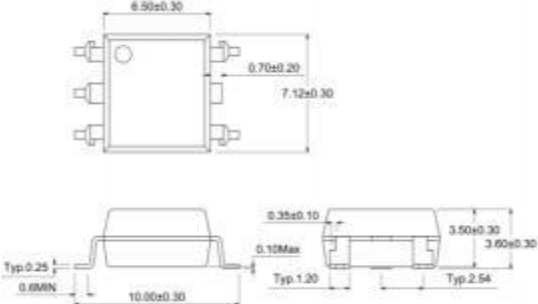
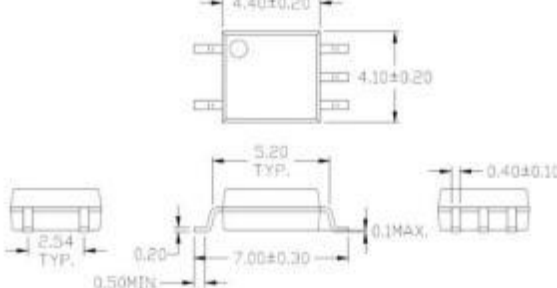
| DIP Type | M Type |
|-----------------------|-----------------------|
| <p>(Patch=2.54mm)</p> | <p>(Patch=2.54mm)</p> |
| S1 Type | LSOP-2.54 Type |
| <p>(Patch=2.54mm)</p> | <p>(Patch=2.54mm)</p> |

4PIN Package Type(1/2)



| SOP-2.54, Mini-Flat Type | SSOP-1.27 Type |
|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
|  <p>(Patch=2.54mm)</p> |  <p>(Patch=1.27mm)</p> |
| SOP-2.54 Type | |
|  <p>(Patch=2.54mm)</p> | |

5PIN Package Type(1/2)

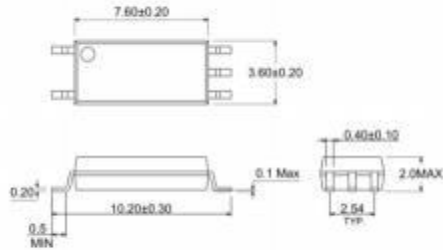
| DIP Type | M Type |
|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
|  <p>(Patch=2.54mm)</p> |  <p>(Patch=2.54mm)</p> |
| S1 Type | SOP-1.27 Type |
|  <p>(Patch=2.54mm)</p> |  <p>(Patch=1.27mm)</p> |

5PIN Package Type(2/2)



Back

LSOP-1.27 Type

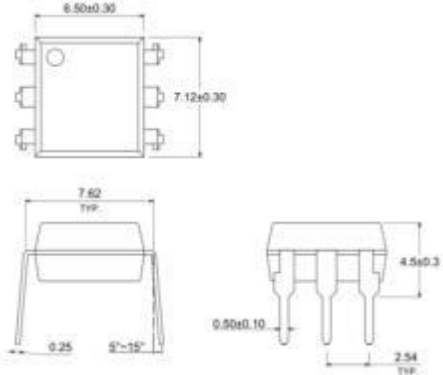
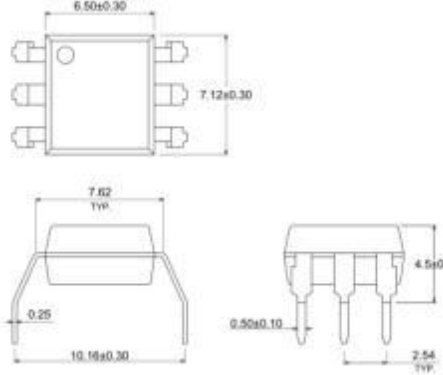
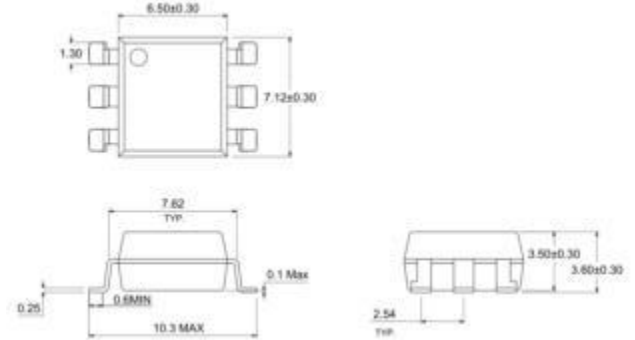
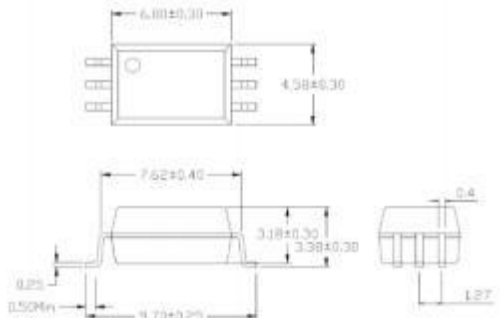


(Patch=1.27mm)



Back

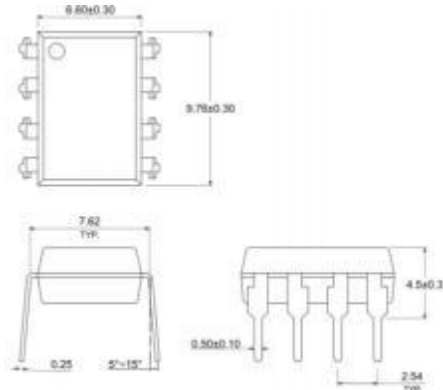
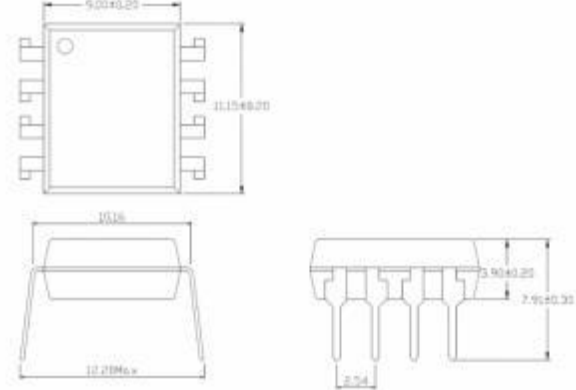
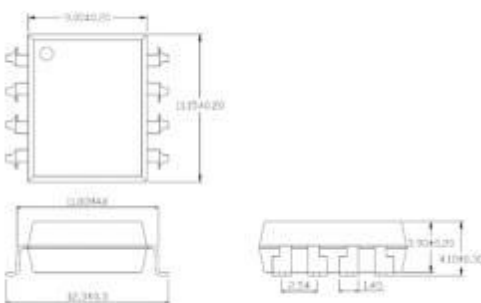
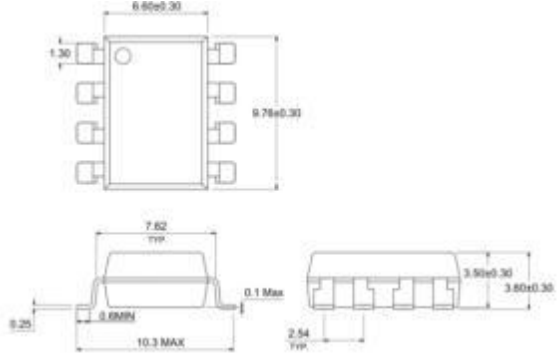
6PIN Package Type

| DIP Type | M Type |
|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
|  <p>(Patch=2.54mm)</p> |  <p>(Patch=2.54mm)</p> |
| S1 Type | P-1.27 Type |
|  <p>(Patch=2.54mm)</p> |  <p>(Patch=1.27mm)</p> |

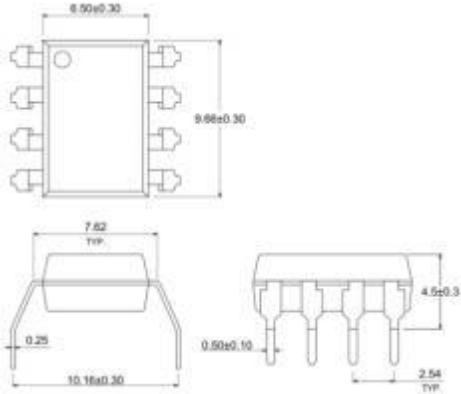
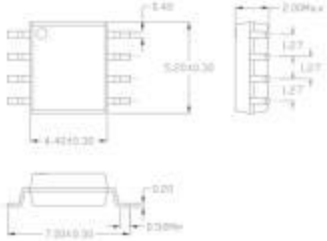
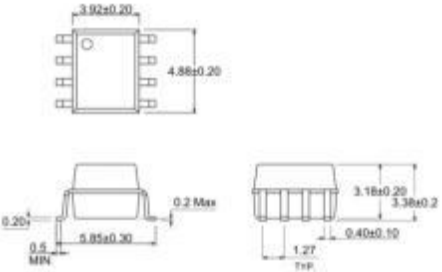


Back

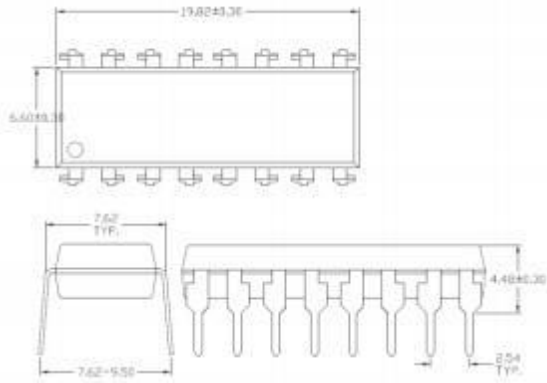
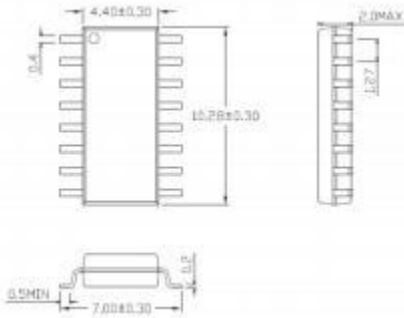
8PIN Package Type(1/2)

| DIP Type | DIP(WIDE BODY) Type |
|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
|  <p>(Patch=2.54mm)</p> |  <p>(Patch=2.54mm)</p> |
| S(WIDE BODY) Type | S1 Type |
|  <p>(Patch=2.54mm)</p> |  <p>(Patch=2.54mm)</p> |

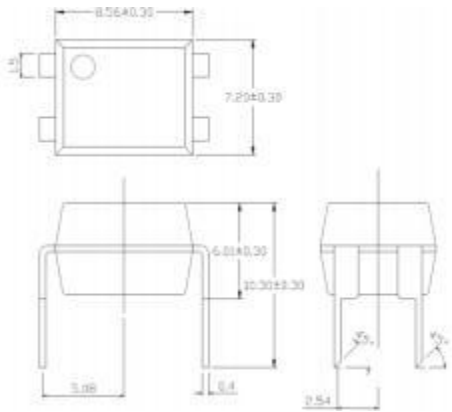
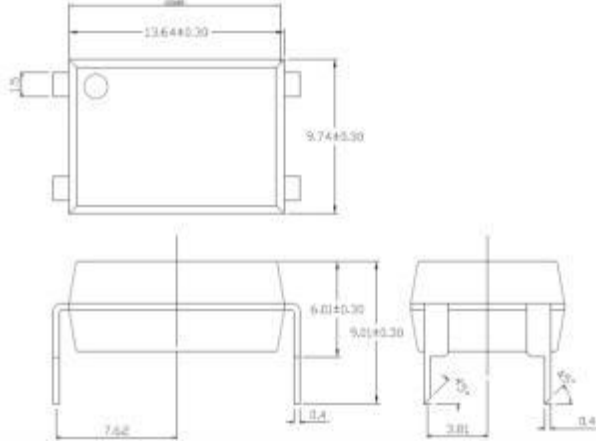
8PIN Package Type(2/2)

| M Type | SSOP-1.27 Type |
|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
|  <p>(Patch=2.54mm)</p> |  <p>(Patch=1.27mm)</p> |
| SOP-1.27 Type | |
|  <p>(Patch=1.27mm)</p> | |

16PIN Package Type

| DIP Type | SSOP-1.27 Type |
|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
|  <p>(Patch=2.54mm)</p> |  <p>(Patch=1.27mm)</p> |

CNY64/65 Package Type

| CNY64 Type | CNY65 Type |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>(Patch=5.08mm)</p> <p>The CNY64 Type package drawing shows a top view with dimensions 8.56±0.30 mm for width and 7.20±0.30 mm for height. The side view shows a height of 6.01±0.30 mm and a lead length of 10.30±0.30 mm. The lead width is 3.08 mm, and the lead thickness is 0.4 mm. The lead angle is 5°.</p> |  <p>(Patch=5.08mm)</p> <p>The CNY65 Type package drawing shows a top view with dimensions 11.64±0.30 mm for width and 9.74±0.30 mm for height. The side view shows a height of 6.01±0.30 mm and a lead length of 9.01±0.30 mm. The lead width is 7.62 mm, and the lead thickness is 0.4 mm. The lead angle is 5°.</p> |