Electronic Concepts
Film Capacitor Innovation Without Limits

PT12 SERIES

Polypropylene Capacitor

Polypropylene Plastic Film Wrap, Epoxy End Fill Type

Polypropylene Plastic Film Wrap, Epoxy End Fill Type. Among these is the type PT12 polypropylene precision capacitors, which exhibit unique and outstanding electrical and environmental characteristics.

FEATURES

- Negligible shift in capacitance under long term exposure to humidity, operating life and temperature cycling.
- Insulation resistance, dielectric absorption and dissipation factor properties are all equivalent, or superior to those of polystyrene

Specification Summary

Capacitance Range
0.001µF to 2.0µF

Capacitance Tolerance
Standard tolerance is ±10% tolerances of ±20%,±5%,±2%, and ±1% are available.

Operating Temperature Range
From -55°C to +105°C

Enclosure/ Construction
Plastic film case with epoxy end seal.

Voltage Rating
100VDC to 600VDC

Quality Control
Capacitors are tested 100% for:
° Capacitance tolerance
° Dissipation Factor
° Dielectric withstanding voltage
° Insulation Resistance
° Equivalent Series Resistance (ESR)

Process and inspection data are maintained on file and available on special request.

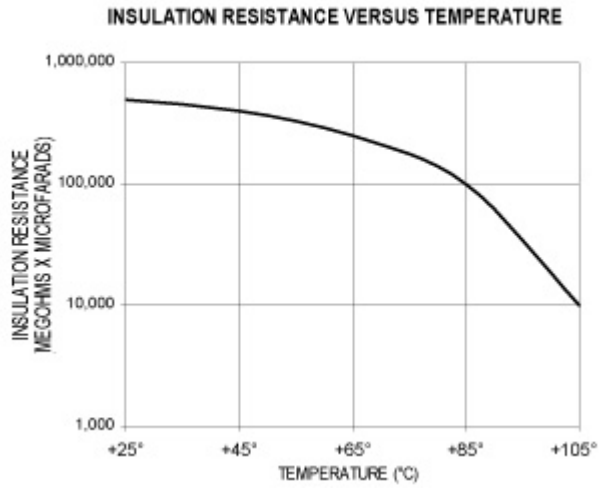
Environmental

Parameter	Method	Condition
Vibration	204	D
Shock	213	I
Humidity	106	-
Thermal Shock	107	A
Life	108	F
Reference MIL-STD-202		

Characteristics

Insulation Resistance

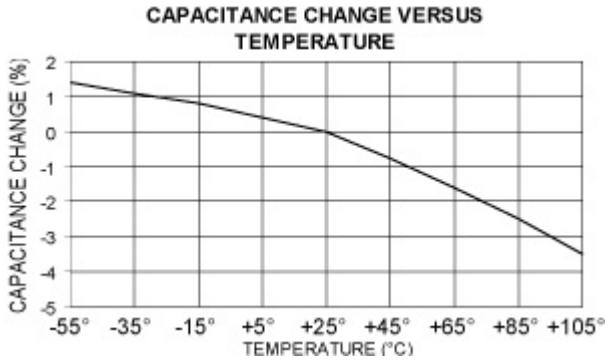
Temperature(°C)	25	85	105	
Megaohmsx Microfarads	500,000	100,000	10,000	
Insulation Resistance				



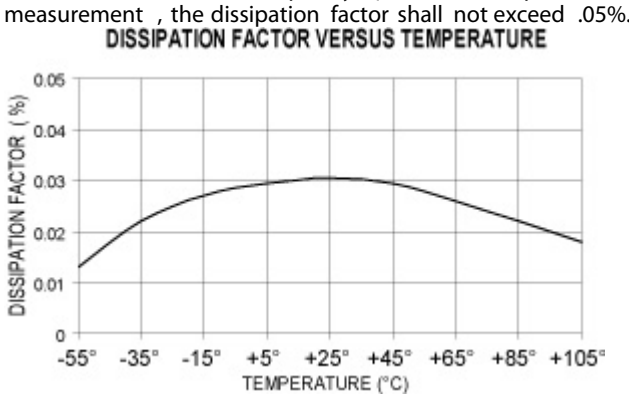
Dielectric Strength
Capacitors will withstand a DC potential of twice rated voltage for one minute through a limiting resistance of 100 ohms/volt without damage or breakdown.

Capacitance Change

Temperature(°C)	-55	25	85	105
PercentageChange (Typical)	1.4	0	-2.5	-3.5
CapacitanceChange				



Dissipation Factor
When measured at the frequency specified for capacitance measurement , the dissipation factor shall not exceed .05%.



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Rev. 3

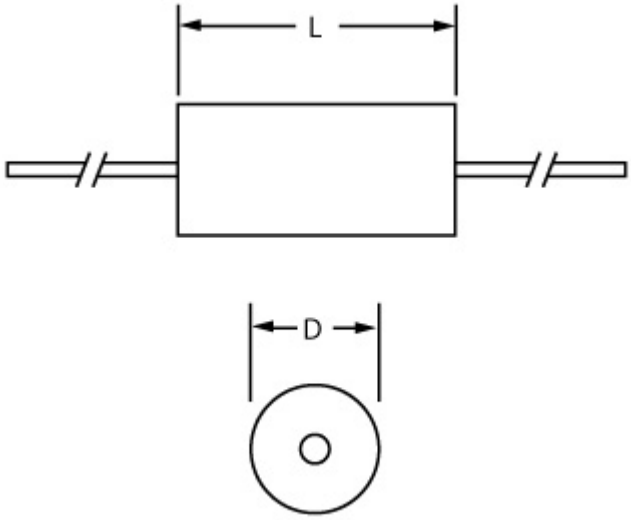
ELECTRICAL DATA

EC PART NUMBER	CAP µf	100 VDC			150 VDC			200 VDC			400 VDC			600 VDC		
		D			E			F			J			K		
		D	L	AWG	D	L	AWG	D	L	AWG	D	L	AWG	D	L	AWG
PT12_102_	0.0010	0.187	0.406	24	0.187	0.406	24	0.187	0.406	24	0.187	0.406	24	0.187	0.500	24
PT12_152_	0.0015	0.187	0.406	24	0.187	0.406	24	0.187	0.406	24	0.203	0.406	24	0.203	0.500	24
PT12_222_	0.0022	0.187	0.406	24	0.187	0.406	24	0.187	0.406	24	0.234	0.406	24	0.234	0.500	24
PT12_332_	0.0033	0.187	0.406	24	0.187	0.406	24	0.203	0.406	24	0.187	0.500	24	0.203	0.625	24
PT12_392_	0.0039	0.187	0.406	24	0.187	0.406	24	0.218	0.406	24	0.187	0.500	24	0.218	0.625	24
PT12_472_	0.0047	0.187	0.406	24	0.187	0.406	24	0.187	0.500	24	0.203	0.500	24	0.234	0.625	24
PT12_562_	0.0056	0.187	0.406	24	0.187	0.406	24	0.187	0.500	24	0.218	0.500	24	0.250	0.625	24
PT12_682_	0.0068	0.187	0.406	24	0.203	0.406	24	0.187	0.500	24	0.234	0.500	24	0.281	0.625	22
PT12_822_	0.0082	0.187	0.406	24	0.218	0.406	24	0.187	0.500	24	0.203	0.625	24	0.250	0.750	24
PT12_103_	0.0100	0.234	0.406	24	0.187	0.500	24	0.203	0.500	24	0.218	0.625	24	0.281	0.750	22
PT12_153_	0.0150	0.250	0.406	24	0.219	0.500	24	0.203	0.625	24	0.265	0.625	22	0.328	0.750	22
PT12_223_	0.0220	0.218	0.500	24	0.250	0.500	24	0.234	0.625	24	0.312	0.625	22	0.343	0.875	22
PT12_333_	0.0330	0.265	0.500	22	0.234	0.625	24	0.281	0.625	22	0.328	0.750	22	0.421	0.875	22
PT12_393_	0.0390	0.281	0.500	22	0.250	0.625	24	0.312	0.625	22	0.359	0.750	22	0.437	0.875	22
PT12_473_	0.0470	0.250	0.625	24	0.281	0.625	22	0.296	0.750	22	0.390	0.750	22	0.500	0.875	20
PT12_563_	0.0560	0.265	0.625	22	0.250	0.750	24	0.312	0.750	22	0.421	0.750	22	0.437	1.187	22
PT12_683_	0.0680	0.281	0.625	22	0.281	0.750	22	0.343	0.750	22	0.406	0.875	22	0.484	1.187	20
PT12_823_	0.0820	0.296	0.750	22	0.312	0.750	22	0.375	0.750	22	0.437	0.875	22	0.531	1.187	20
PT12_104_	0.1000	0.328	0.750	22	0.344	0.750	22	0.406	0.875	22	0.484	0.875	20	0.578	1.187	20
PT12_124_	0.1200	0.328	0.750	22	0.375	0.750	22	0.406	0.875	22	0.453	1.187	20	0.625	1.187	20
PT12_154_	0.1500	0.328	0.875	22	0.375	0.875	22	0.453	0.875	20	0.500	1.187	20	0.703	1.187	20
PT12_184_	0.1800	0.343	0.875	22	0.406	0.875	22	0.484	0.875	20	0.546	1.187	20	0.687	1.437	20
PT12_224_	0.2200	0.375	0.875	22	0.437	0.875	22	0.484	1.062	20	0.687	1.187	20	0.750	1.437	20
PT12_274_	0.2700	0.390	1.062	22	0.437	1.062	22	0.531	1.062	20	0.578	1.437	20	0.828	1.437	20
PT12_334_	0.3300	0.421	1.062	22	0.500	1.062	20	0.593	1.062	20	0.640	1.437	20	0.812	1.687	20
PT12_394_	0.3900	0.453	1.062	20	0.531	1.062	20	0.593	1.187	20	0.687	1.437	20	0.890	1.687	20
PT12_474_	0.4700	0.468	1.187	20	0.531	1.187	20	0.656	1.187	20	0.750	1.437	20	0.968	1.687	20
PT12_564_	0.5600	0.515	1.187	20	0.578	1.187	20	0.625	1.437	20	0.825	1.437	20	0.968	1.937	20
PT12_684_	0.6800	0.562	1.187	20	0.625	1.187	20	0.687	1.437	20	0.825	1.687	20	1.062	1.937	20
PT12_824_	0.8200	0.609	1.187	20	0.625	1.437	20	0.687	1.687	20	0.906	1.687	20	1.156	1.937	20
PT12_105_	1.0000	0.671	1.187	20	0.687	1.437	20	0.734	1.687	20	1.000	1.687	20	1.125	1.937	20
PT12_125_	1.2000	0.671	1.437	20	0.750	1.437	20	0.875	1.687	20	1.125	1.687	20	1.312	2.187	20
PT12_155_	1.5000	0.656	1.687	20	0.750	1.687	20	0.843	1.937	20	1.125	1.937	20	1.500	2.187	20
PT12_185_	1.8000	0.718	1.687	20	0.828	1.687	20	0.921	1.937	20	1.250	1.937	20	1.625	2.187	20
PT12_205_	2.0000	0.703	1.937	20	0.781	1.937	20	0.984	1.937	20	1.187	2.187	20	1.750	2.187	20

Note: The 5th character of the part number represents the DC Voltage Rating: D=100, E=150, etc. Additionally, the 9th character of the part number represents capacitance tolerance: M=±20%, K=±10%, J=±5%, G=±2%, & F=±1%.

*The lead length is 1.5" minimum. The lead material is copper clad steel, solder coated. *

MECHANICAL DATA



Tolerances:

Length:

+3/32", -1/6"

Diameter:

0.249" and under +/-0.032"

0.250" to 0.500" +/-0.046"

0.501" and over +/-0.062"

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ADDITIONAL INFORMATION

These polypropylene capacitors are designed for use from -55°C to +105°C without derating. Therefore, type PT12 can be used in high temperature applications when it is not feasible to use polystyrene capacitors(which have an upper limit of 85°C).

Polypropylene capacitors are excellent for all critical applications which require high insulation resistance, high Q, extreme stability, close tolerance, low dielectric absorption and dissipation factor. The temperature coefficient makes an excellent choice for high Q tuned circuits, precision filter circuits, pulse networks and RC circuits.

HOW TO ORDER

TYPE Polypropylene	PT
STYLE/TERMINALS/VOLTAGE Thefirst number represents the style, the second number represents the Terminals and the third letter represents the Voltage	12
CAPACITANCE IN PICOFARADS Expressed in picofarads, the first two digits are significant figures. The third is the number of zeros. (e.g., 104 equals 100.000pF)	E104
TOLERANCE M=+20% K=+10% J=+5% G=+2% F=+1%	K

Marking And Date Code
All capacitors are marked with company initials "EC", corporate logo or EC trademark—in addition to type PT12, capacitance, tolerance, rated DC working voltage and date code. The first two digits of the date code represent the year, the second two digits the week, i.e., 0952 is the 52nd week of 2009, 0902 is the second week of 2009.

Quality Assurance
Major emphasis is placed on quality assurance. EC is an ISO 9001-2000 and AS9100:2004 Certified Company. Raw material inspection and the use of SPC manufacturing procedures assure the highest quality standards. Procedures are fully described in the EC Quality Control Manual. Electronic Concepts will continue to advance the state-of-the-art by utilizing leading edge technology, compact capacitor designs and establishing reliability procedures.

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