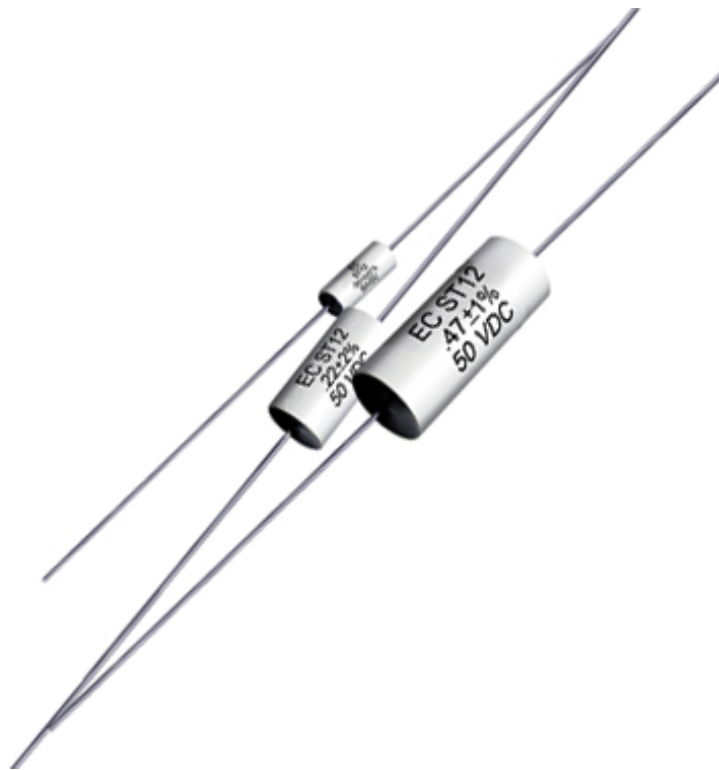


## Polystyrene Capacitors

### Polystyrene Capacitors Wrap and Fill Tubular Configuration

Type ST12 Polystyrene capacitors excel in performance characteristics such as capacitance stability, linear negative temperature coefficient, low dielectric absorption, low dissipation factor and high insulation resistance. By far, polystyrene film provides capacitance stability exceeding that of all plastic films available today.



#### FEATURES

- Capacitance Stability
- Linear Negative Temperature Coefficient
- Low Dielectric Absorption
- Low Dissipation Factor
- High Insulation Resistance

#### STANDARD CONFIGURATION

- Wrap and Fill Axial Leads

# Specification Summary

Capacitance Range  
0.001 $\mu$ F to 1.8 $\mu$ F

Capacitance Tolerance  
K= $\pm$ 10%, J= $\pm$ 5%, G= $\pm$ 2%, F= $\pm$ 1%

Operating Temperature Range  
-55 $^{\circ}$ C to +85 $^{\circ}$ C

Enclosure/ Construction  
Extended foil (non-inductive)

Voltage Rating  
50VDC to 400VDC

Quality Control  
Capacitors are tested 100% for:

- o Capacitance tolerance
- o Dissipation Factor
- o Dielectric withstanding voltage
- o Insulation Resistance
- o Equivalent Series Resistance (ESR)

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

Environmental

Parameter	Method	Condition
Vibration	204	D
Immersion	104	B
Shock	213	I
Humidity	106	-
Thermal Shock	107	A
Life	108	F
Reference MIL-STD-202		

## Characteristics

Insulation Resistance

Temperature( $^{\circ}$ C)	25	85		
Megaohmsx Microfarads	500,000	50,000		
Insulation Resistance				

Dielectric Strength

Capacitors will withstand a DC potential of 200% rated voltage for two (2) minutes without damage or breakdown.

Test voltage is applied and discharged through a resistance of 1 OHM per volt minimum, and at 25 $^{\circ}$ C.

Capacitance Change

Temperature( $^{\circ}$ C)	-55	25	85	
PercentageChange (typical)	1.0	0	-0.6	
CapacitanceChange				

Dissipation Factor

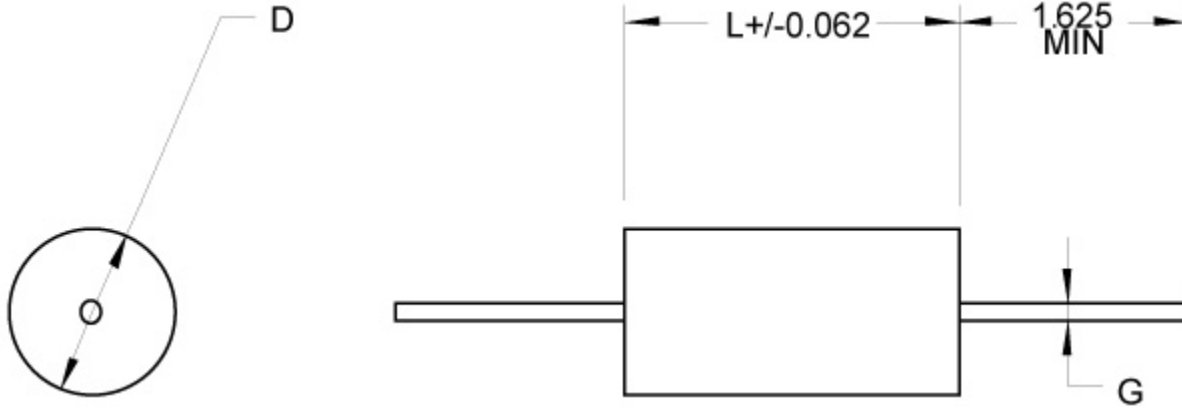
When measured at the frequency specified for capacitance measurements the dissipation factor will not exceed 0.05%.

# ELECTRICAL DATA

EC PART NUMBER	MFD	50 VDC			100 VDC			200 VDC			400 VDC		
		B			D			F			J		
		D	L	AWG	D	L	AWG	D	L	AWG	D	L	AWG
ST12_102_	0.0010	0.187	0.500	24	0.187	0.500	24	0.187	0.500	24	0.205	0.500	24
ST12_122_	0.0012	0.187	0.500	24	0.187	0.500	24	0.187	0.500	24	0.222	0.500	24
ST12_152_	0.0015	0.187	0.500	24	0.187	0.500	24	0.187	0.500	24	0.245	0.500	24
ST12_182_	0.0018	0.187	0.500	24	0.187	0.500	24	0.187	0.500	24	0.266	0.500	22
ST12_222_	0.0022	0.187	0.500	24	0.187	0.500	24	0.187	0.500	24	0.292	0.500	22
ST12_272_	0.0027	0.187	0.500	24	0.187	0.500	24	0.187	0.500	24	0.321	0.500	22
ST12_332_	0.0033	0.187	0.500	24	0.187	0.500	24	0.187	0.500	24	0.352	0.500	22
ST12_392_	0.0039	0.187	0.500	24	0.187	0.500	24	0.191	0.500	24	0.275	0.625	22
ST12_472_	0.0047	0.187	0.500	24	0.187	0.500	24	0.207	0.500	24	0.299	0.625	22
ST12_562_	0.0056	0.187	0.500	24	0.187	0.500	24	0.223	0.500	24	0.325	0.625	22
ST12_682_	0.0068	0.187	0.500	24	0.206	0.500	24	0.224	0.500	24	0.258	0.750	22
ST12_822_	0.0082	0.195	0.500	24	0.224	0.500	24	0.221	0.625	24	0.281	0.750	22
ST12_103_	0.0100	0.212	0.500	24	0.244	0.500	24	0.242	0.625	24	0.308	0.750	22
ST12_123_	0.0120	0.220	0.500	24	0.265	0.500	22	0.209	0.750	24	0.335	0.750	22
ST12_153_	0.0150	0.252	0.500	22	0.293	0.500	22	0.231	0.750	24	0.373	0.750	22
ST12_183_	0.0180	0.278	0.500	22	0.266	0.625	22	0.250	0.750	24	0.335	0.875	22
ST12_223_	0.0220	0.252	0.625	22	0.291	0.625	22	0.274	0.750	22	0.369	0.875	22
ST12_273_	0.0270	0.276	0.625	22	0.320	0.625	22	0.301	0.750	22	0.406	0.875	22
ST12_333_	0.0330	0.303	0.625	22	0.352	0.625	22	0.330	0.750	22	0.448	0.875	22
ST12_393_	0.0390	0.326	0.625	22	0.380	0.625	22	0.356	0.750	22	0.485	0.875	20
ST12_473_	0.0470	0.357	0.625	22	0.326	0.750	22	0.333	0.875	22	0.461	1.000	20
ST12_563_	0.0560	0.388	0.625	22	0.355	0.750	22	0.361	0.875	22	0.503	1.000	20
ST12_683_	0.0680	0.344	0.750	22	0.331	0.875	22	0.395	0.875	22	0.496	1.250	20
ST12_823_	0.0820	0.366	0.750	22	0.361	0.875	22	0.384	1.000	22	0.542	1.250	20
ST12_104_	0.1000	0.402	0.750	22	0.398	0.875	22	0.412	1.000	22	0.596	1.250	20
ST12_124_	0.1200	0.438	0.750	22	0.434	0.875	22	0.460	1.000	20	0.652	1.250	20
ST12_154_	0.1500	0.414	0.875	22	0.428	1.000	22	0.465	1.250	20	0.665	1.500	20
ST12_184_	0.1800	0.453	0.875	20	0.466	1.000	20	0.508	1.250	20	0.728	1.500	20
ST12_224_	0.2200	0.498	0.875	20	0.466	1.250	20	0.560	1.250	20	0.803	1.500	20
ST12_274_	0.2700	0.488	1.000	20	0.516	1.250	20	0.619	1.250	20	0.887	1.500	20
ST12_334_	0.3300	0.537	1.000	20	0.568	1.250	20	0.683	1.250	20	0.980	1.500	20
ST12_394_	0.3900	0.528	1.250	20	0.616	1.250	20	0.683	1.500	20	-	-	-
ST12_474_	0.4700	0.578	1.250	20	0.675	1.250	20	0.749	1.500	20	-	-	-
ST12_564_	0.5600	0.630	1.250	20	0.675	1.500	20	0.815	1.500	20	-	-	-
ST12_684_	0.6800	0.693	1.250	20	0.745	1.500	20	-	-	-	-	-	-
ST12_824_	0.8200	0.700	1.500	20	0.816	1.500	20	-	-	-	-	-	-
ST12_105_	1.0000	0.770	1.500	20	0.900	1.500	20	-	-	-	-	-	-
ST12_125_	1.2000	0.844	1.500	20	-	-	-	-	-	-	-	-	-
ST12_155_	1.5000	0.940	1.500	20	-	-	-	-	-	-	-	-	-
ST12_185_	1.8000	1.050	1.500	20	-	-	-	-	-	-	-	-	-

Note: The fifth character of the part number represents the DC voltage (i.e. B=50 VDC, D=100 VDC, etc.). Additionally, the tenth character of the part number represents the capacitance tolerance: K=±10%, J=±5%, G=±2%, F=±1%.

# STYLE



## ADDITIONAL INFORMATION

The type ST12 capacitor is offered in a "wrap and fill" configuration. The outer wrap is an electrical grade of Mylar film adhesive tape. The end fill is an epoxy resin specially formulated to bond with the Mylar film outer wrap forming a moisture resistant seal.

## HOW TO ORDER

TYPE Polystyrene Dielectric	→	ST
STYLE / VOLTAGE Wrap and Fill Axial Leads / DC Voltage Rating: B=50VDC, D=100VDC, etc.	→	12 B
CAPACITANCE IN PICO FARADS Expressed in Picofarads, the first two digits are significant figures. The third is the number of zeros. (e.g., 103 equals 10,000 pF)	→	103
TOLERANCE 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 ST12, 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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