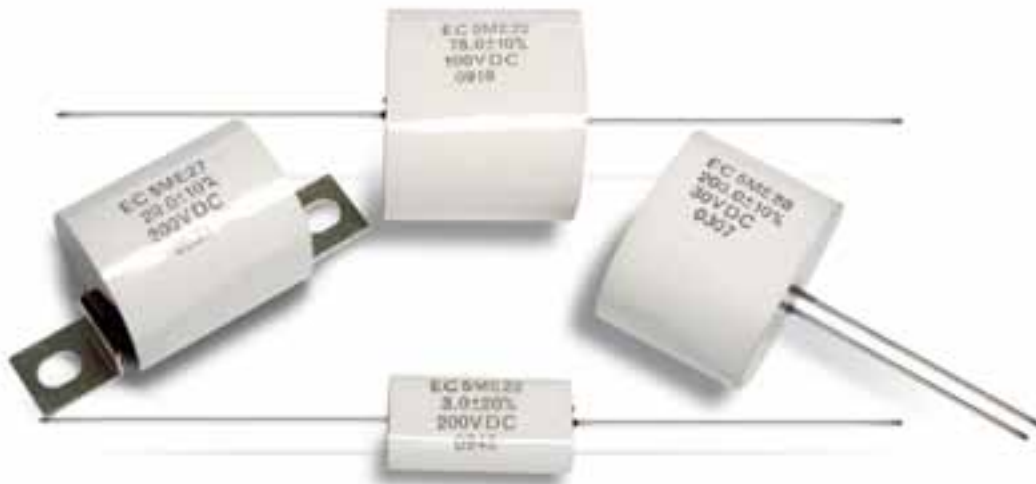


Metallized Polyester Film Capacitors For Switching Power Supplies

For applications requiring high current carrying capability at elevated temperatures with high DV/DT and peak current.



FEATURES

- High current carrying capability
- High operating temperature
- Low ESR and ESL
- Compact configuration
- Five termination styles
- RoHS compliant

STANDARD CONFIGURATION

- 5ME22 /axial lead termination
- 5ME26 /tab terminations low profile
- 5ME27 /tab terminations high profile
- 5ME28 /internal coaxial leads
- 5ME29 /internal coaxial leads with grounded copper shielding

Specification Summary

Capacitance Range

1.0 to 200.0 microfarads. Capacitance is measured at 25°C and referenced to a frequency of 1kHz.

Capacitance Tolerance

M = ±20%, K = ±10%, J = ±5%

Temperature Range

Operating: -40°C to +85°C

Storage: -55°C to +85°C

Enclosure/Construction

Mylar tape outerwrap with specially formulated, conductive epoxy end fill to maximize heat exchange. Extended metallized polyester film.

Voltage Rating

DC working voltage ratings are from 30 VDC to 400 VDC

Quality Control

Capacitors are tested 100% for:

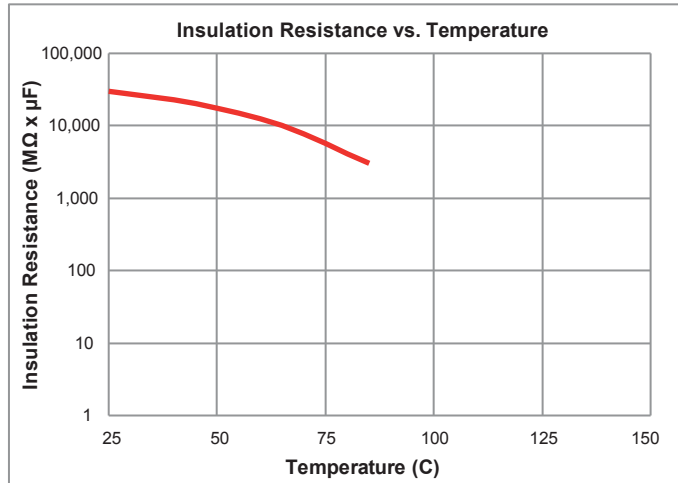
- Capacitance
- Tolerance
- Dissipation Factor
- Dielectric withstanding voltage
- Insulation Resistance
- Equivalent Series Resistance (ESR)

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

Environmental

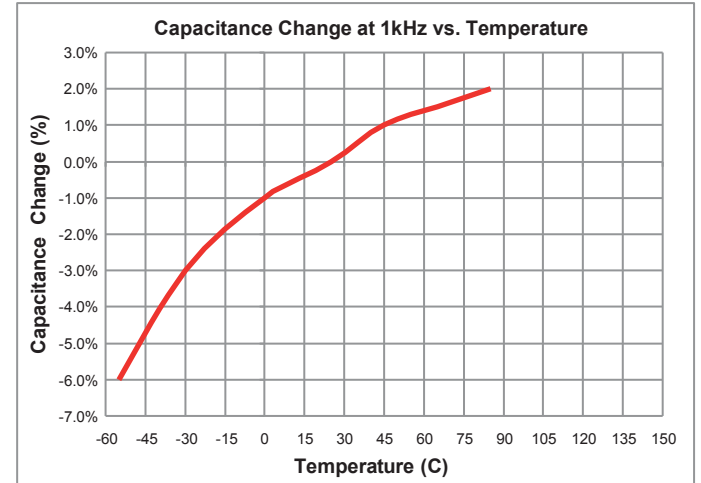
Parameter	Method	Condition
Vibration	204	D
Shock	213	I
Humidity	106	-
Thermal Shock	107	A
Life	108	F
Reference MIL-STD-202		

Characteristics



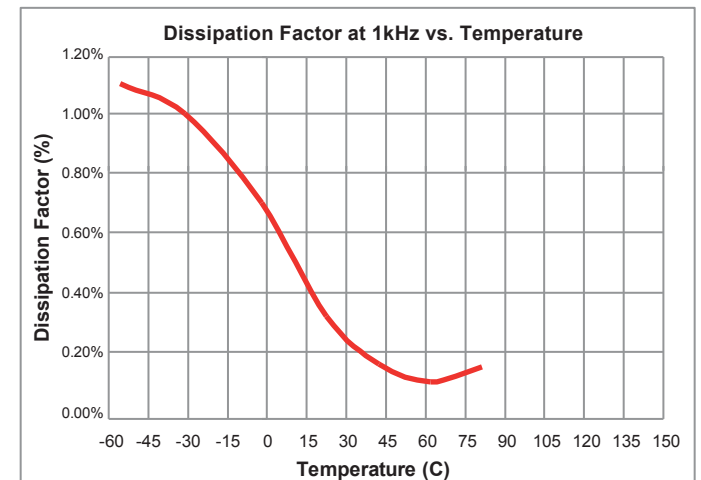
Dielectric Strength

Capacitors withstand a DC potential of 150% rated voltage applied between the terminals for one (1) minute without permanent breakdown. Test voltage is applied and discharged through one ohm per volt minimum, and at 25°C.



Dissipation Factor

Will not exceed 1.0% when measured at 25°C; at 1kHz for capacitance ≤ 20 microfarads; at 120 Hz for capacitance >microfarads.



Dimensional and Electrical Data

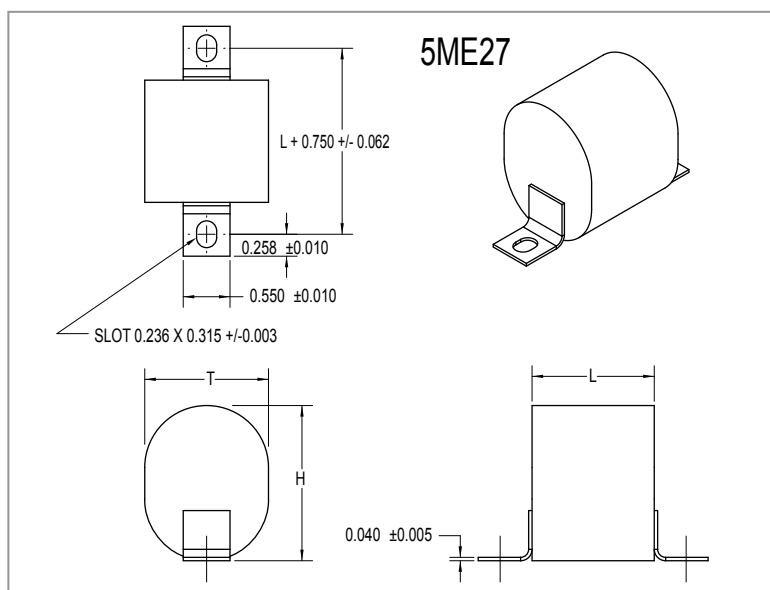
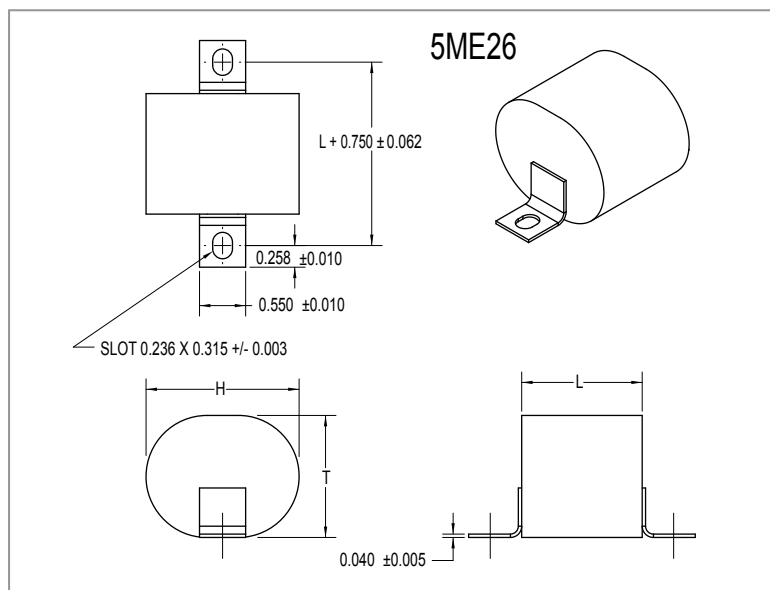
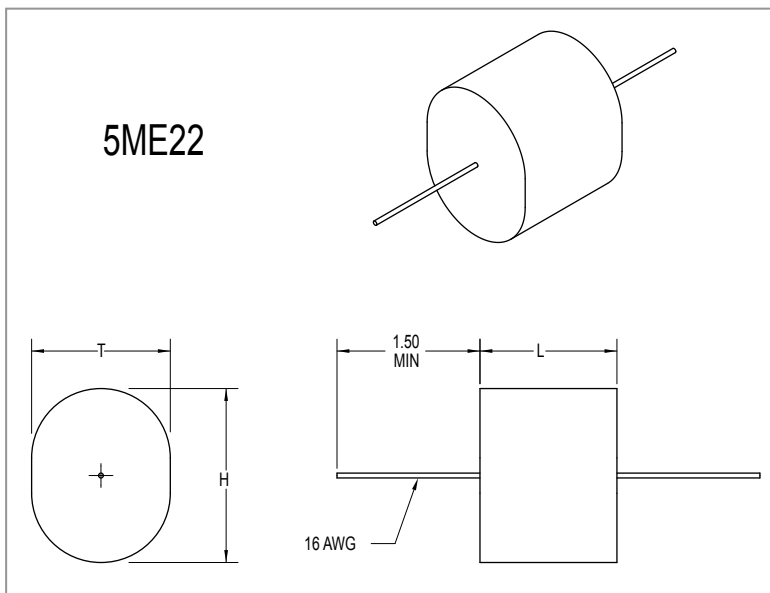
CAPACITANCE µF		AXIAL LEADS			LUGS			RADIAL LEADS		
		5ME22			5ME26, 5ME27			5ME28, 5ME29		
		T MAX	H MAX	L MAX	T MAX	H MAX	L MAX	T MAX	H MAX	L MAX
30 VDC	15	0.525	0.895	0.812	-	-	-	-	-	-
	30	0.525	0.895	1.187	-	-	-	-	-	-
	75	1.030	1.440	0.937	1.030	1.440	0.937	1.030	1.440	0.937
	100	1.030	1.440	1.187	1.030	1.440	1.187	1.030	1.440	1.187
	200	1.455	1.825	1.187	1.455	1.825	1.187	1.455	1.825	1.187
50 VDC	10	0.525	0.895	0.937	-	-	-	-	-	-
	15	0.525	0.895	1.062	-	-	-	-	-	-
	50	1.030	1.440	1.062	1.030	1.440	1.062	1.030	1.440	1.062
	100	1.455	1.825	1.062	1.455	1.825	1.062	1.455	1.825	1.062
	150	1.455	1.825	1.437	1.455	1.825	1.437	1.455	1.825	1.437
75 VDC	10	0.525	0.895	1.062	-	-	-	-	-	-
	15	0.525	0.895	1.312	-	-	-	-	-	-
	30	1.030	1.440	0.937	1.030	1.440	0.937	1.030	1.440	0.937
	50	1.030	1.440	1.312	1.030	1.440	1.312	1.030	1.440	1.312
	100	1.455	1.825	1.437	1.455	1.825	1.437	1.455	1.825	1.437
100 VDC	5	0.525	0.895	0.937	-	-	-	-	-	-
	10	0.525	0.895	1.187	-	-	-	-	-	-
	20	1.030	1.440	0.937	1.030	1.440	0.937	1.030	1.440	0.937
	50	1.455	1.825	1.062	1.455	1.825	1.062	1.455	1.825	1.062
	75	1.455	1.825	1.437	1.455	1.825	1.437	1.455	1.825	1.437
150 VDC	10	1.030	1.440	0.937	1.030	1.440	0.937	1.030	1.440	0.937
	15	1.030	1.440	1.062	1.030	1.440	1.062	1.030	1.440	1.062
	20	1.030	1.440	1.312	1.030	1.440	1.312	1.030	1.440	1.312
	30	1.455	1.825	1.187	1.455	1.825	1.187	1.455	1.825	1.187
	40	1.455	1.825	1.312	1.455	1.825	1.312	1.455	1.825	1.312
200 VDC	3	0.525	0.895	1.312	-	-	-	-	-	-
	5	1.030	1.440	0.937	1.030	1.440	0.937	1.030	1.440	0.937
	10	1.030	1.440	1.312	1.030	1.440	1.312	1.030	1.440	1.312
	15	1.455	1.825	1.187	1.455	1.825	1.187	1.455	1.825	1.187
	20	1.455	1.825	1.437	1.455	1.825	1.437	1.455	1.825	1.437
300 VDC	1	0.525	0.895	0.937	-	-	-	-	-	-
	2	1.030	1.440	0.812	1.030	1.440	0.812	1.030	1.440	0.812
	3	1.030	1.440	0.937	1.030	1.440	0.937	1.030	1.440	0.937
	5	1.030	1.440	1.312	1.030	1.440	1.312	1.030	1.440	1.312
	10	1.455	1.825	1.312	1.455	1.825	1.312	1.455	1.825	1.312
400 VDC	1	1.030	1.440	0.812	1.030	1.440	0.812	1.030	1.440	0.812
	2	1.030	1.440	1.187	1.030	1.440	1.187	1.030	1.440	1.187
	3	1.455	1.825	1.062	1.455	1.825	1.062	1.455	1.825	1.062
	4	1.455	1.825	1.312	1.455	1.825	1.312	1.455	1.825	1.312
	5	1.455	1.825	1.437	1.455	1.825	1.437	1.455	1.825	1.437

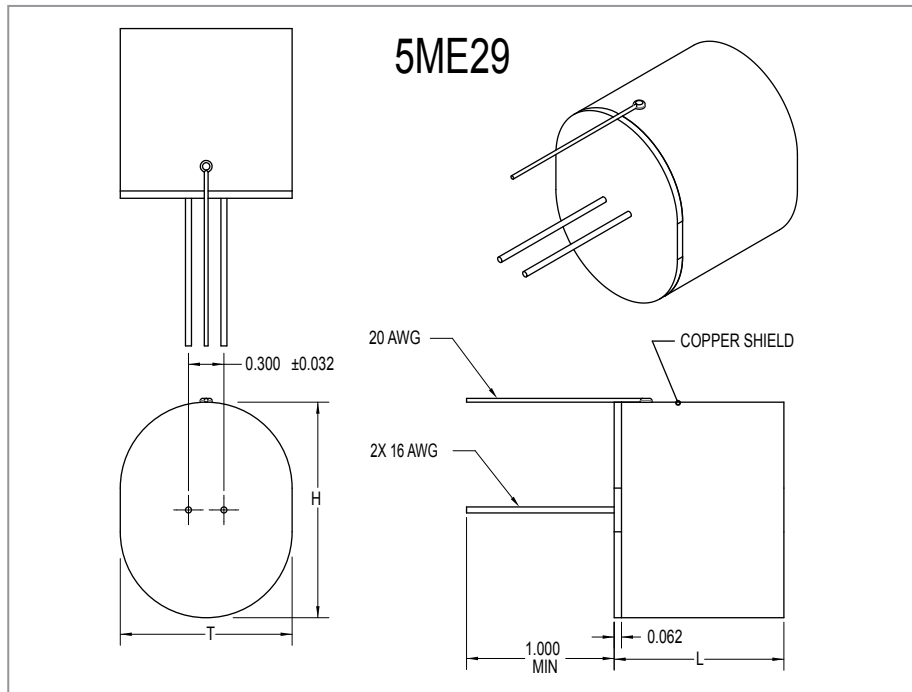
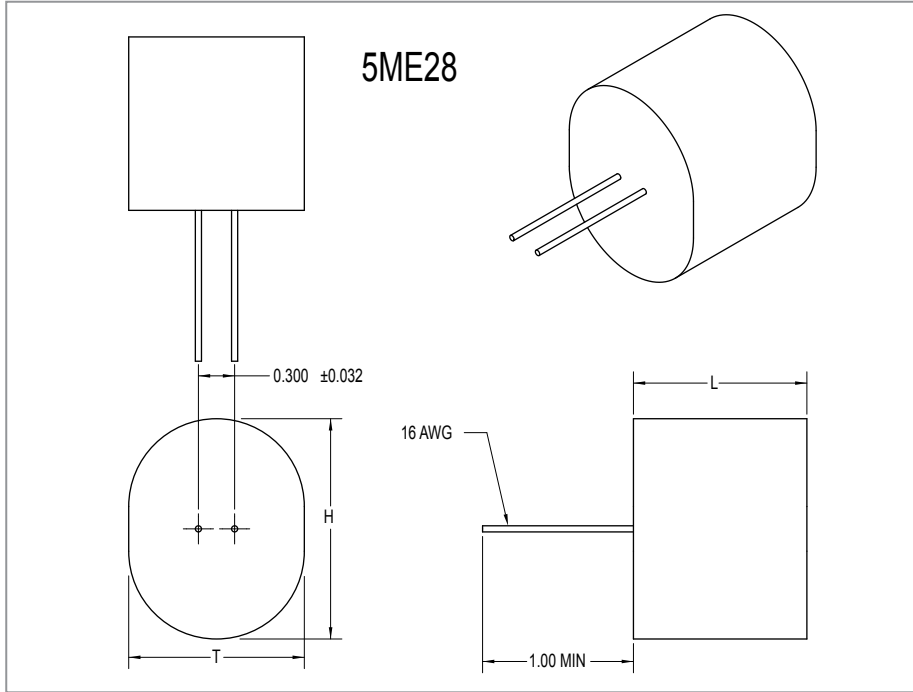
Note: Other sizes, values, and voltages are available upon request.

CAPACITANCE μF	ESR 100kHz mOHMS	MAXIMUM RIPPLE CURRENT IN AMPS 20kHz TO 100kHz					I PEAK AMPS	dv/dt V/μs	(TYP) ESL nH	5ME22 5ME26 5ME27 (TYP) kHz Fres	5ME28 5ME29 (TYP) kHz Fres
		TEMPERATURES									
		25°C	45°C	65°C	85°C						
30 VDC	15	9	9.0	7.4	5.3	1.4	950	63	12	375	-
	30	5	13.6	11.2	8.0	2.1	905	30	24	187	-
	75	5	31.4	25.8	18.6	4.8	3476	46	16	145	174
	100	5	35.3	29.0	20.9	5.3	3017	30	24	102	122
	200	5	63.2	51.9	37.3	9.6	6034	30	24	72	86
50 VDC	10	14	7.5	6.1	4.4	1.1	618	62	16	454	-
	15	10	9.9	8.2	5.9	1.5	731	49	20	290	-
	50	5	26.2	21.5	15.4	4	2437	49	20	159	191
	100	5	47.2	38.7	27.8	7.1	4873	49	20	112	134
	150	5	56.4	46.3	33.3	8.5	4472	30	32	72	86
75 VDC	10	14	8.3	6.9	4.9	1.3	609	61	20	355	-
	15	10	10.9	8.9	6.4	1.6	642	43	28	245	-
	30	5	21.3	17.5	12.6	3.2	2318	77	16	229	275
	50	5	28.3	23.3	16.7	4.3	2140	43	28	134	161
	100	5	48.3	39.7	28.5	7.3	3727	37	32	89	107
100 VDC	5	26	5.6	4.6	3.3	0.8	464	93	16	562	-
	10	14	9.2	7.5	5.4	1.4	603	60	24	325	-
	20	7	17.3	14.2	10.2	2.6	1854	93	16	281	337
	50	5	35.8	29.4	21.2	5.4	3655	73	20	159	191
	75	5	44.0	36.2	26.0	6.7	3254	45	32	102	122
150 VDC	10	13	11.9	9.7	7.0	1.8	1236	124	16	398	478
	15	9	15.9	13.1	9.4	2.4	1462	97	20	290	348
	20	7	18.9	15.5	11.2	2.9	1370	68	28	212	254
	30	5	27.5	22.6	16.3	4.2	2413	80	24	187	224
	40	5	33.8	27.7	19.9	5.1	2740	68	28	150	180
200 VDC	3	5	5.4	4.5	3.2	0.8	308	103	28	549	-
	5	25	8.8	7.3	5.2	1.3	927	185	16	562	674
	10	13	14.3	11.7	8.4	2.2	1027	103	28	300	360
	15	9	20.7	17.0	12.2	3.1	1810	121	24	265	318
	20	7	24.8	20.4	14.7	3.8	1789	89	32	199	239
300 VDC	1	123	2.8	2.3	1.7	0.4	247	247	16	1260	-
	2	61	5.3	4.4	3.1	0.8	676	338	12	1030	1236
	3	41	7.1	5.8	4.2	1.1	742	247	16	726	871
	5	26	9.9	8.1	5.8	1.5	685	137	28	425	510
	10	13	17.6	14.5	10.4	2.7	1370	137	28	300	360
400 VDC	1	121	3.9	3.2	2.3	0.6	507	507	12	1450	1740
	2	63	6.2	5.1	3.7	0.9	483	241	24	726	871
	3	41	9.1	7.5	5.4	1.4	877	292	20	649	779
	4	32	10.9	9.0	6.4	1.7	822	205	28	475	570
	5	26	12.9	10.6	7.6	2.0	894	179	32	398	478

Note: Current ratings are reflective of types 5ME26 and 5ME27. Other styles shall not exceed 19 AMPS RMS. Current is limited by #16 tinned copper leads.

MECHANICAL DATA





Additional Information

The 5ME Series is one of the new generation of mil quality film capacitors developed by Electronic Concepts to meet the ever changing, higher performance demands of the electronic industry. The 5ME Series is specifically designed for switch-mode power supplies that require voltages to 400 VDC at temperatures to 85°C with DV/DT as high as 507V/ μ s and peak current to 6,000 amps. It also offers low ESR, low inductance and current capabilities to 75 amps. In addition styles 5ME28 and 5ME29 offer inductance as low as 12nH to maximize resonant frequency to as high as 1.7MHz.

With the introduction of the 5ME Series, the circuit designer now has a film capacitor that can increase overall system performance with miniaturization -- and also realize significant cost savings.

How to Order

TYPE Metallized Polyester	→	5ME
STYLE 22: axial lead; 26: radial leaded tabs--low profile; 27: radial leaded tabs--high profile; 28: internal coaxial leads; 29: internal coaxial leads--copper shield	→	26
VOLTAGE DC Voltage Rating: B = 50 VDC, C = 75 VDC, etc.	→	B
CAPACITANCE IN PICO FARADS The first two digits are significant, the third represents the number of zeros to follow to express capacitance in picofarads	→	106
TOLERANCE M = \pm 20% K = \pm 10% J = \pm 5%	→	K

Marking And Date Code

All capacitors are marked with company initials "EC", corporate logo or EC trademark—in addition to type 5ME, 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., 1252 is the 52nd week of 2012, 1202 is the second week of 2012.

Quality Assurance

Major emphasis is placed on quality assurance. EC is an ISO 9001 and AS9100 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.

Sales Offices

United States Headquarters

Electronic Concepts, Inc.
526 Industrial Way West
Eatontown, NJ 07724
Tel: 732-542-7880
Fax: 732-542-0524

email: sales@ecicaps.com
website: www.ecicaps.com

Distribution Center

Elcon Sales
542 Industrial Way West
Eatontown, NJ 07724
Tel: 732-380-0405
Fax: 732-380-0409

email: sales@elconsales.com

European Headquarters

Electronic Concepts Europe LTD
IDA Estate
Oughterard
Co. Galway
Ireland

tel: +353-91-552385,552432
fax: +353-91-552387

email: sales@ecicaps.ie
website: www.electronicconcepts.ie

