ELECTRONIC FILM CAPACITORS, INC.

Reidville Industrial Park * 41 Interstate Lane
WATERBURY, CONNECTICUT 06705

PHONE (203) 755-5629 FAX (203) 755-0659

METALLIZED POLYPROPYLENE

SERIES 1213

EFC Series 1213 are metallized polypropylene capacitors. This series offers the advantage of superior stability, self healing, high insulation resistance, low dissipation factor and high frequency operation. Suggested applications include: timing circuits, switch mode power supplies (SMPS). Packaging options include: wrap and fill (TF, TC), radial lead box (EFR), axial lead (EC, EF). Application options include: switching power supply (SP).

SPECIFICATIONS

1. TEMPERATURE RANGE

- 55 °C to + 85 °C at rated voltage.
To 105 °C with 25% voltage derating.

2. CAPACITANCE

Capacitors ≤ 1.0 MFD shall be measured at 1 KHz ± 20 HZ. Capacitors >1.0 MFD shall be measured at 60 HZ. Measurements shall be taken at 25 °C.

3. DIELECTRIC STRENGTH

At 25 °C, 150% of rated voltage when applied terminal to terminal for one minute through a current limiting resistance.

4. INSULATION RESISTANCE

At 25 °C after 2 minutes charge time at rated voltage or 500 VDC, whichever is less, the minimum IR shall be 80,000 Megohm-Microfarads, but need not exceed 120,000 Megohms.

5. HUMIDITY RESISTANCE

Series 1213 shall meet the requirements of MIL-STD. 202C, Method 103B.

6. DISSIPATION FACTOR

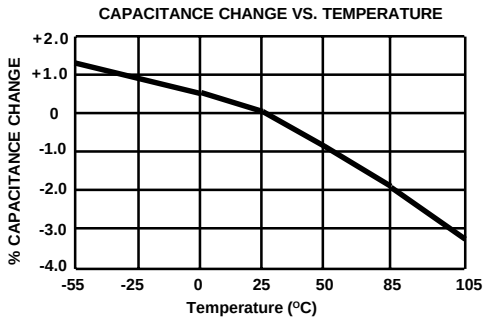
Shall be 0.1 % max. when measured as in Par. 2.

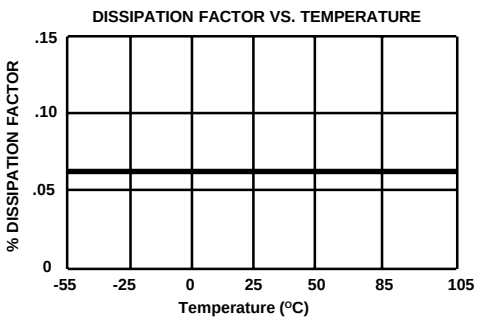
7. LIFE TEST

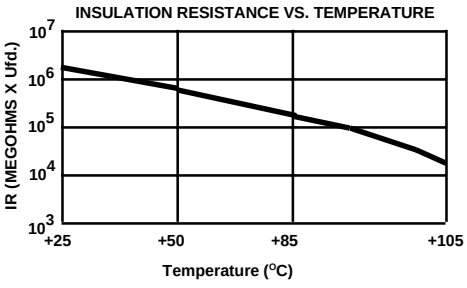
Will withstand the application of 150% rated voltage at +85 °C for 250 hours with not more than one failure in 12 permitted.

TYPICAL TEMPERATURE CURVES

METALLIZED POLYPROPYLENE







CATALOG NOMENCLATURE

*** 1213 EFR - 3 - .1 - 1 - 5**

CASE CODE
TC - WRAP & FILL - ROUND - AXIAL
TF - WRAP & FILL - FLAT - AXIAL
EC - EPOXY CASE - ROUND - AXIAL
EF - EPOXY CASE - FLAT - AXIAL
EFR - EPOXY CASE - FLAT - RADIAL

DIELECTRIC CODE
1206 - POLYPROPYLENE/FOIL
1213 - METALLIZED POLYPROPYLENE
1306 - POLYESTER/FOIL
1313 - METALLIZED POLYESTER
1606 - POLYCARBONATE/FOIL
1613 - METALLIZED POLYCARBONATE
1906 - POLYSTYRENE/FOIL

SIZE CODE
3 - STANDARD
2 - MINIATURE
1 - SUBMINIATURE
X - NON-STANDARD

FOR EFC METRIC CASES USE THE ONE LETTER CASE CODE LISTED.

FOR EFC "EC" STYLE USE THE TWO LETTER CASE CODE.

CAPACITANCE
IN MICROFARADS (µF)

VOLTAGE
.35 - 35 VDC
0 - 50 VDC
1 - 100 VDC
2 - 200 VDC
3 - 300 VDC
4 - 400 VDC
ETC.

TOLERANCE
1 - 1%
2 - 2%
5 - 5%
ETC.

* OPTIONS

THE FOLLOWING OPTIONS ARE AVAILABLE FROM EFC BY SPECIFYING THE APPROPRIATE PREFIX.

TEMPERATURE COEFFICIENTS:
Different T.C.'s are available in both Polypropylene and Polystyrene dielectrics. T.C.'s and the appropriate prefixes are as follows:

A1206 = -150 PPM/^{O}C ±30 PPM
T1206 = -270 PPM/^{O}C ±30 PPM
01906 = ZERO PPM/^{O}C ±50 PPM
A1906 = -80 PPM/^{O}C ±30 PPM
T1906 = -120 PPM/^{O}C ±30 PPM

HIGH VOLTAGE:
EFC high voltage metallized polyester capacitors are designed for use in high voltage power supplies, rectifiers and other similar circuits. Voltage ratings to 15,000 DC are common-place at EFC. Specify with the prefix **HV**.

AC CURRENT:
Specify metallized polyester and termination procedures to enable EFC to supply a small sized **AC** rated capacitor for general purpose use at 60 HZ. Specify with the prefix **AC**.

HIGH AMPERAGE AND PULSE CURRENTS:
Dual metallized carriers allow these capacitors to handle high amperage and pulsing currents. Available in both polyester and polypropylene dielectrics. Specify with the prefix **MF**. Contact the factory for an **MF** spec. sheet.

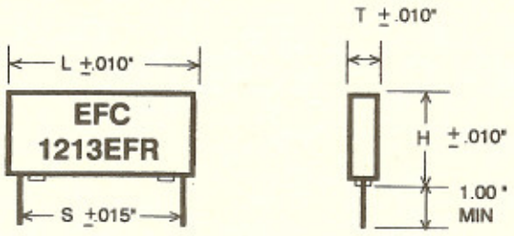
SWITCH MODE POWER SUPPLY:
Polypropylene and polyester capacitors designed for SMPS have low ESR and high current rating should be specified with the **SP** prefix.

EFC will manufacture to any non-standard value and size. Please consult factory for special requirements.

ELECTRONIC FILM CAPACITORS

EFC

Metallized Polypropylene Capacitors



(All dimensions in inches)

1213EFR

Epoxy Case (Radial Leads)

DIMENSIONS and RATINGS

Cap.	1213EFR-1 50 VDC			1213EFR-2 100 VDC			1213EFR-3 150 VDC			1213EFR-3 200 VDC			1213EFR-3 400 VDC			1213EFR-3 600 VDC			Lead Specs. Tinned Copperweld		
µF	T	L	H	T	L	H	T	L	H	T	L	H	T	L	H	T	L	H	L	S	AWG
.001	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330	.420	.30	22
.0012	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330	.550	.40	22
.0015	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330	.670	.50	22
.0022	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330	.820	.60	22
.0027	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330	1.04	.80	22
.0039	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330	1.24	1.10	20
.0047	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330	1.75	1.60	20
.0056	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330			
.0068	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330			
.0082	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330			
.01	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.420	.330	.180	.550	.330			
.012	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330	.180	.550	.330			
.015	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330	.240	.550	.370			
.018	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.420	.330	.180	.550	.330	.240	.550	.370			
.022	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330	.180	.550	.330	.240	.550	.370			
.027	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.370	.240	.550	.370	.300	.550	.430			
.033	.160	.420	.330	.180	.420	.330	.180	.420	.330	.180	.550	.370	.240	.550	.370	.300	.550	.430			
.039	.160	.420	.330	.180	.420	.330	.180	.420	.330	.180	.550	.370	.240	.550	.370	.300	.670	.430			
.047	.160	.420	.330	.180	.550	.330	.180	.550	.330	.240	.550	.370	.300	.550	.430	.300	.670	.430			
.056	.160	.420	.330	.180	.550	.330	.180	.550	.330	.240	.550	.370	.300	.550	.430	.300	.820	.430			
.068	.180	.420	.330	.240	.550	.370	.240	.550	.370	.240	.550	.430	.300	.550	.430	.300	.820	.430			
.082	.180	.420	.330	.240	.550	.370	.240	.550	.370	.240	.550	.430	.300	.670	.430	.400	.820	.550			
.1	.180	.550	.330	.240	.550	.370	.240	.550	.370	.300	.550	.430	.300	.670	.430	.400	.820	.550			
.12	.180	.550	.330	.300	.550	.430	.300	.550	.430	.300	.550	.430	.300	.820	.430	.400	.820	.550			
.15	.180	.550	.330	.300	.550	.430	.300	.550	.430	.300	.670	.430	.300	.820	.430	.400	1.240	.550			
.18	.180	.550	.330	.300	.670	.430	.300	.670	.430	.300	.670	.430	.400	.820	.550	.400	1.240	.550			
.22	.240	.670	.370	.300	.670	.430	.300	.670	.430	.300	.820	.430	.400	.820	.550	.400	1.240	.550			
.27	.240	.670	.370	.300	.670	.430	.300	.670	.430	.300	.820	.430	.400	.820	.550	.570	1.240	.730			
.33	.300	.670	.430	.300	.820	.430	.300	.820	.430	.400	.820	.550	.400	1.040	.550	.570	1.240	.730			
.39	.300	.670	.430	.400	.820	.550	.400	.820	.550	.400	.820	.550	.400	1.240	.550	.570	1.240	.730			
.47	.300	.670	.430	.400	.820	.550	.400	.820	.550	.400	.820	.550	.400	1.240	.550	.570	1.240	.730			
.56	.300	.670	.430	.400	.820	.550	.400	.820	.550	.400	1.040	.550	.570	1.240	.730	.700	1.240	.940			
.68	.300	.670	.430	.400	1.040	.550	.400	1.040	.550	.400	1.240	.550	.570	1.240	.730	.700	1.240	.940			
.82	.300	.820	.430	.400	1.040	.550	.400	1.040	.550	.400	1.240	.550	.570	1.240	.730	.700	1.750	1.125			
1.0	.300	.820	.430	.400	1.240	.550	.400	1.240	.550	.570	1.240	.730	.570	1.240	.730	.700	1.750	1.125			
1.25	.400	.820	.550	.570	1.240	.730	.570	1.240	.730	.570	1.240	.730	.700	1.240	.940	.700	1.750	1.125			
1.50	.400	.820	.550	.570	1.240	.730	.570	1.240	.730	.570	1.240	.730	.700	1.240	.940	.800	1.750	1.125			
2.00	.400	1.040	.550	.570	1.240	.730	.570	1.240	.730	.700	1.240	.940	.700	1.750	1.125						
3.00	.400	1.240	.550	.700	1.240	.940	.700	1.240	.940	.700	1.750	1.125									
4.00	.570	1.240	.730	.700	1.750	1.125	.700	1.750	1.125	.700	1.750	1.125									
5.00	.570	1.240	.730	.700	1.750	1.125	.700	1.750	1.125	.800	1.750	1.125									
6.00	.570	1.240	.730																		

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