

Type 946 High dV/dt, Round Polypropylene Film Capacitors

Double Metallized - Axial Leads



Type 946 is a round, axial leaded metallized polypropylene capacitor with double metallized electrodes for both self healing properties and high peak current carrying capability (dV/dt). The series features low ESR characteristics, excellent high frequency and high voltage capabilities.

Highlights

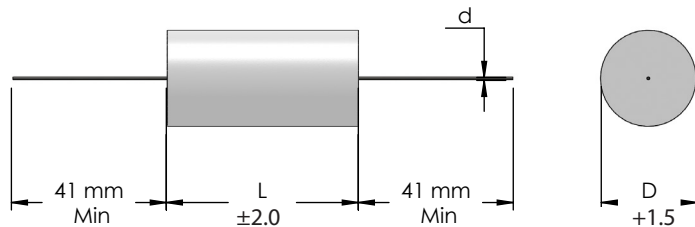
- Low ESR
- High dV/dt
- High Frequency
- High Voltage

Specifications

Capacitance Range	0.01 to 2.5 μ F
Capacitance Tolerance	\pm 5% Standard Tolerance
Rated Voltage	850 to 3000 Vdc (450 to 500 Vac, 60 Hz)
Operating Temperature Range with Ripple	-55 $^{\circ}$ C to 105 $^{\circ}$ C* *Full rated voltage at 85 $^{\circ}$ C - derated linearly to 50% rated at 105 $^{\circ}$ C
Maximum rms Current	Check tables for values
Insulation Resistance	> 100,000 M Ω x μ F
Test Voltage between Terminals @ 25 $^{\circ}$ C	160% rated DC voltage for 60 s
Test Voltage between Terminals & Case @ 25 $^{\circ}$ C	3 kVac @ 50/60 Hz for 60 s
Life Test	2,000 h @ 85 $^{\circ}$ C, 125 % rated DC voltage
Life Expectancy	60,000 h @ rated Vdc, 70 $^{\circ}$ C 30,000 h @ rated Vac, 70 $^{\circ}$ C

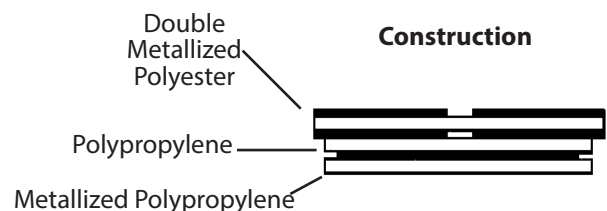
Regulatory Information

Dimensions



Construction Details

Case Material	UL510 Polyester Tape Wrap
Resin Material	UL94V-0 Epoxy Fill
Terminal Material	Tin Plated Copper



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Part Numbering System

946 Series	C Termination Code	6 Voltage Code	P Capacitance Decimal Point	22 Capacitance Significant Figures (µF)	K Tolerance Code	-F RoHS Compliant Indicator
946	C = Tinned Copper Wire F = Insulated Stranded Wire H = Tinned Lugs	6 = 600 Vdc 8 = 850 Vdc 10 = 1000 Vdc 12 = 1200 Vdc	16 = 1600 Vdc 20 = 2000 Vdc 30 = 3000 Vdc	S = 0.0 P = 0. W = No decimal point	K = ±10% J = ±5%	

Ratings

Cap. (µF)	Catalog Part Number	D +1.5 mm	L ±2.0 mm	d mm	Typical ESR @ 100 KHz mΩ	dV/dt (V/µs)	I peak (A)	I _{RMS} 70 °C 100 kHz (A)
850 Vdc (450 Vac)								
0.15	946C8P15J-F	10.0	31.0	1.0	8.5	300	45	5
0.22	946C8P22J-F	12.0	31.0	1.0	6.6	300	66	7
0.33	946C8P33J-F	14.5	31.0	1.0	4.6	300	100	9
0.47	946C8P47J-F	17.0	31.0	1.0	3.5	300	140	9
0.68	946C8P68J-F	20.5	31.0	1.0	2.7	300	200	9
1.00	946C8W1J-F	20.5	42.0	1.0	3.1	200	200	9
1.50	946C8W1P5J-F	24.5	42.0	1.2	2.3	200	300	11
2.00	946C8W2J-F	28.5	42.0	1.2	2.0	200	400	11
2.20	946C8W2P2J-F	30.0	42.0	1.2	1.9	200	440	11
2.50	946C8W2P5J-F	31.5	42.0	1.2	1.9	200	500	11
1200 Vdc (500 Vac)								
0.10	946C12P1J-F	14.0	31.0	1.0	8.7	1100	110	7
0.15	946C12P15J-F	17.0	31.0	1.0	6.1	1100	165	9
0.22	946C12P22J-F	20.5	31.0	1.0	4.5	1100	240	9
0.33	946C12P33J-F	19.5	42.0	1.0	4.7	650	215	9
0.47	946C12P47J-F	23.0	42.0	1.2	3.6	650	305	9
0.68	946C12P68J-F	27.5	42.0	1.2	2.7	650	440	11
1.00	946C12W1J-F	33.5	42.0	1.2	2.3	650	650	11
1.20	946C12W1P2J-F	29.0	55.0	1.2	2.8	400	480	11
2000 Vdc (500 Vac)								
0.022	946C20S22J-F	10.5	31.0	1.0	32	1750	39	3
0.033	946C20S33J-F	12.5	31.0	1.0	21	1750	58	4
0.047	946C20S47J-F	14.5	31.0	1.0	15	1750	80	5
0.068	946C20S68J-F	17.0	31.0	1.0	11	1750	120	7
0.100	946C20P1J-F	20.5	31.0	1.0	7.6	1750	175	9
0.150	946C20P15J-F	19.5	42.0	1.0	7.4	1000	150	9
0.220	946C20P22J-F	23.5	42.0	1.2	5.4	1000	220	9
0.330	946C20P33J-F	28.5	42.0	1.2	3.9	1000	330	11
0.470	946C20P47J-F	33.5	42.0	1.2	3.1	1000	470	11
0.560	946C20P56J-F	29.0	55.0	1.2	3.9	650	365	11

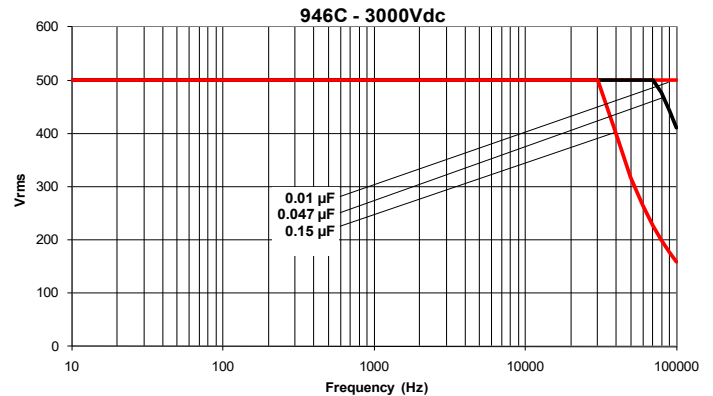
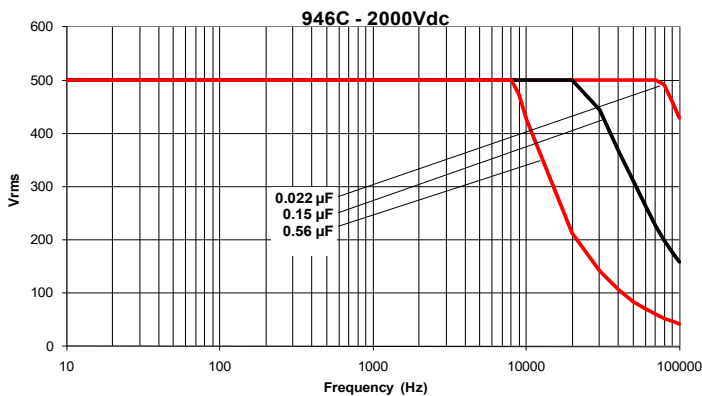
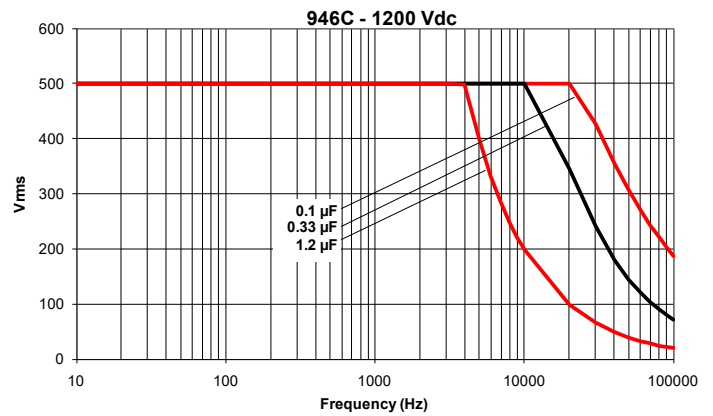
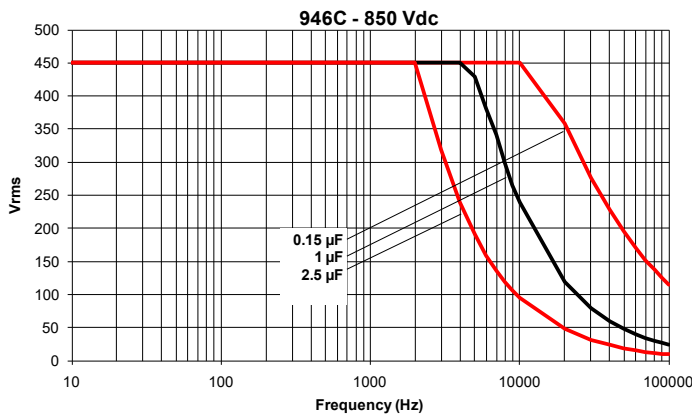
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Cap. (μF)	Catalog Part Number	D +1.5 mm	L ±2.0 mm	d mm	Typical ESR @100 KHz mΩ	dV/dt (V/μs)	I peak (A)	I _{RMS} 70 °C 100 kHz (A)
3000 Vdc (500 Vac)								
0.010	946C30S1J-F	12.0	31.0	1.0	62	2750	28	2
0.015	946C30S15J-F	14.0	31.0	1.0	41	2750	41	3
0.022	946C30S22J-F	16.5	31.0	1.0	28	2750	60	4
0.033	946C30S33J-F	20.0	31.0	1.0	19	2750	90	5
0.047	946C30S47J-F	18.5	42.0	1.0	18	1600	75	6
0.068	946C30S68J-F	22.0	42.0	1.0	13	1600	110	8
0.100	946C30P1J-F	26.0	42.0	1.2	8.8	1600	160	11
0.150	946C30P15J-F	32.0	42.0	1.2	6.2	1600	240	11

Typical Performance Curves

RMS Voltage vs Frequency @ 25 °C



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