Type 942, Polypropylene Capacitors, for High Pulse, Snubber

Very High dV/dt for Snubber Applications



Type 942 round, axial film capacitors utilize a hybrid section design of polypropylene film, metal foils and metallized polypropylene dielectric to achieve both high peak current as well as superior rms current ratings. This series is ideal for high pulse operation and high peak current circuits.

Highlights

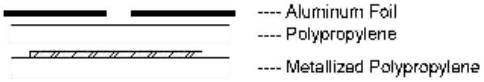
- Very high dV/dt
- Very high pulse current
- Low inductance
- Self Healing

Specifications

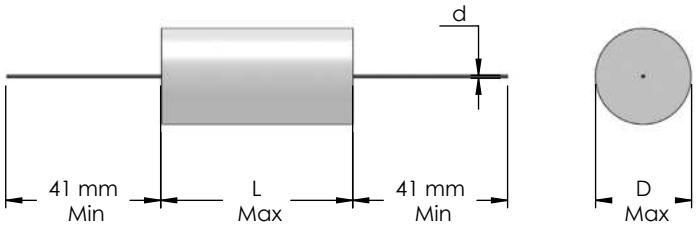
Capacitance Range	0.01 to 2.5 µF
Capacitance Tolerance	±10 % (K) Standard; ±5% (J) Optional
Rated Voltage	600 to 2000 Vdc (300 to 500 Vac, 60 Hz)
Operating Temperature Range	–55 ºC to 105 ºC* *Full rated voltage at 85 ºC - derated linearly to 50% rated at 105 ºC
Maximum rms Current	Check tables for values
Insulation Resistance	> 100,000 MΩ x µF
Test Voltage between Terminals @ 25ºC	150% rated DC voltage for 60 s
Test Voltage between Terminals & Case @ 25 ºC	3 kVac @ 50/60 Hz for 60 s
Life Test	2,000 h @ 85 ºC, 125% rated DC voltage
Life Expectancy	60,000 h @ rated Vdc, 70 ºC 30,000 h @ rated Vac, 70 ºC
Regulatory Information	

Dimensions

Construction Diagram



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

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

Ratings

NOTE: Other ratings, sizes and performance specifications are available. Contact us.

Cap. (µF)	Catalog Part Number	D mm	L mm	d mm	Typical ESR (mΩ)	Typical ESL (nH)	dV/dt (V/µs)	I_{PEAK} (A)	I_{RMS} 70 °C 100 kHz (A)
600 Vdc (300 Vac)									
.15	942C6P15K-F	14.0	34.0	1.0	5	21	1427	214	7.7
.22	942C6P22K-F	16.0	34.0	1.0	7	22	1427	314	7.0
.33	942C6P33K-F	19.0	34.0	1.0	6	23	1427	471	8.4
.47	942C6P47K-F	22.0	34.0	1.0	5	24	1427	671	10.1
.68	942C6P68K-F	25.6	34.0	1.2	4	26	1427	970	12.4
1.00	942C6W1K-F	23.5	46.0	1.2	5	30	800	800	11.8
1.50	942C6W1P5K-F	28.5	46.0	1.2	4	32	800	1200	14.8
2.00	942C6W2K-F	28.5	54.0	1.2	3	36	628	1256	18.2
2.20	942C6W2P2K-F	30.0	54.0	1.2	3	36	628	1382	18.8
2.50	942C6W2P5K-F	32.0	54.0	1.2	3	37	628	1570	19.5
850 Vdc (360 Vac)									
.15	942C8P15K-F	15.5	34.0	1.0	5	22	1712	257	8.1
.22	942C8P22K-F	18.0	34.0	1.0	7	23	1712	377	7.5
.33	942C8P33K-F	21.5	34.0	1.0	6	24	1712	565	7.7
.47	942C8P47K-F	25.0	34.0	1.2	5	26	1712	805	10.9
.68	942C8P68K-F	29.5	34.0	1.2	4	27	1712	1164	13.6
1.00	942C8W1K-F	28.0	46.0	1.2	5	32	960	960	13.1
1.50	942C8W1P5K-F	29.0	54.0	1.2	4	36	754	1131	15.9
2.00	942C8W2K-F	29.5	64.0	1.2	3	41	574	1148	19.9
1000 Vdc (400 Vac)									
.10	942C10P1K-F	16.0	34.0	1.0	8	22	2283	228	6.6
.15	942C10P15K-F	19.0	34.0	1.0	7	23	2283	342	7.8
.22	942C10P22K-F	22.5	34.0	1.0	6	24	2283	502	9.3
.33	942C10P33K-F	21.0	46.0	1.0	5	29	1280	422	11.0
.47	942C10P47K-F	24.0	46.0	1.2	5	30	1280	601	11.9
.68	942C10P68K-F	28.5	46.0	1.2	5	32	1280	870	13.3
1.00	942C10W1K-F	30.0	54.0	1.2	5	37	1005	1005	14.6
1.40	942C10W1P4K-F	31.5	64.0	1.2	4	41	765	1071	17.9

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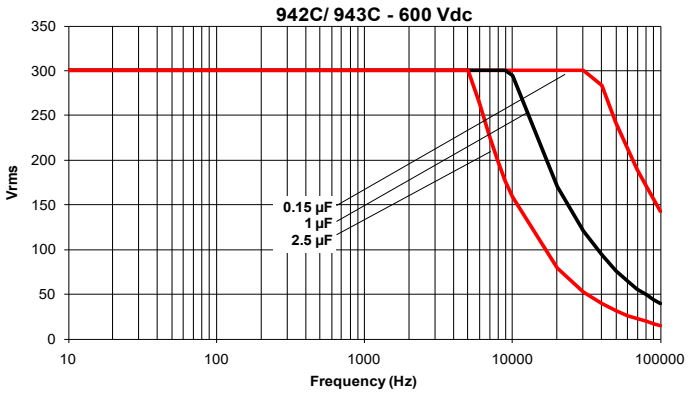
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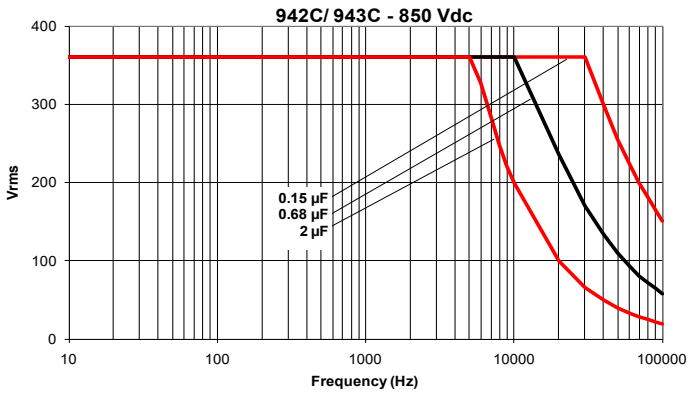
Cap. (µF)	Catalog Part Number	D mm	L mm	d mm	Typical ESR (mΩ)	Typical ESL (nH)	dV/dt (V/µs)	I_{PEAK} (A)	I_{RMS} 70 °C 100 kHz (A)
1200 Vdc (430 Vac)									
.10	942C12P1K-F	19.0	34.0	1.0	5	23	2854	285	9.2
.15	942C12P15K-F	22.5	34.0	1.0	5	24	2854	428	10.2
.22	942C12P22K-F	26.5	34.0	1.2	6	26	2854	628	10.3
.33	942C12P33K-F	24.5	46.0	1.2	6	31	1600	528	11.0
.47	942C12P47K-F	29.0	46.0	1.2	5	32	1600	752	13.4
.68	942C12P68K-F	30.5	54.0	1.2	5	37	1256	854	14.7
.90	942C12P9K-F	31.0	64.0	1.2	5	41	957	861	15.9
1600 Vdc (460 Vac)									
.022	942C16S22K-F	12.0	34.0	1.0	27	20	3425	75	3.0
.033	942C16S33K-F	14.5	34.0	1.0	14	21	3425	113	4.7
.047	942C16S47K-F	16.5	34.0	1.0	8	22	3425	161	6.7
.068	942C16S68K-F	19.0	34.0	1.0	6	23	3425	233	8.4
.10	942C16P1K-F	22.5	34.0	1.0	4	24	3425	342	11.4
.15	942C16P15K-F	20.5	46.0	1.0	5	29	1919	288	10.9
.22	942C16P22K-F	23.5	46.0	1.0	5	68	1919	422	11.8
.33	942C16P33K-F	28.5	46.0	1.2	5	32	1919	633	13.3
.47	942C16P47K-F	30.0	54.0	1.2	5	36	1507	708	14.6
.56	942C16P56K-F	28.5	64.0	1.2	5	40	1148	643	15.1
.68	942C16P68K-F	31.5	64.0	1.2	5	42	1148	781	16.0
2000 Vdc (500 Vac)									
.01	942C20S1K-F	12.0	34.0	1.0	50	20	5137	51	2.2
.015	942C20S15K-F	14.5	34.0	1.0	40	21	5137	77	2.8
.022	942C20S22K-F	16.5	34.0	1.0	20	22	5137	113	4.2
.033	942C20S33K-F	19.5	34.0	1.0	12	23	5137	170	6.0
.047	942C20S47K-F	18.0	46.0	1.0	10	28	2879	135	7.1
.068	942C20S68K-F	20.5	46.0	1.0	6	29	2879	196	9.9
.10	942C20P1K-F	24.5	46.0	1.2	5	30	2879	288	12.1
.15	942C20P15K-F	29.5	46.0	1.2	5	32	2879	432	13.5

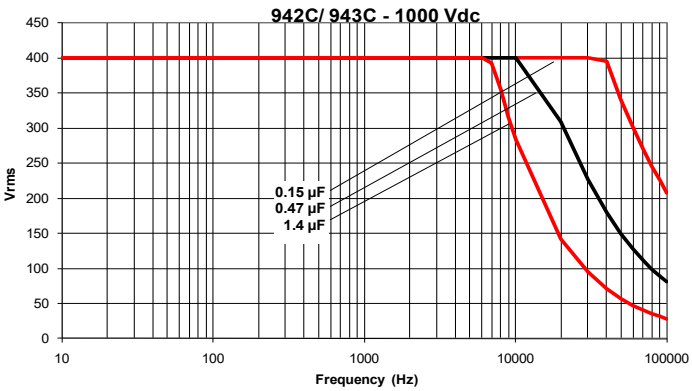
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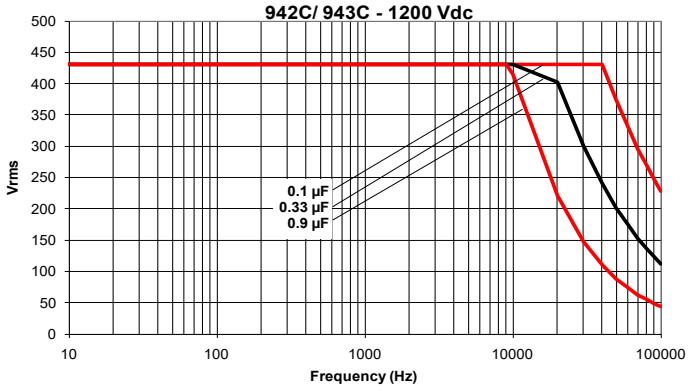
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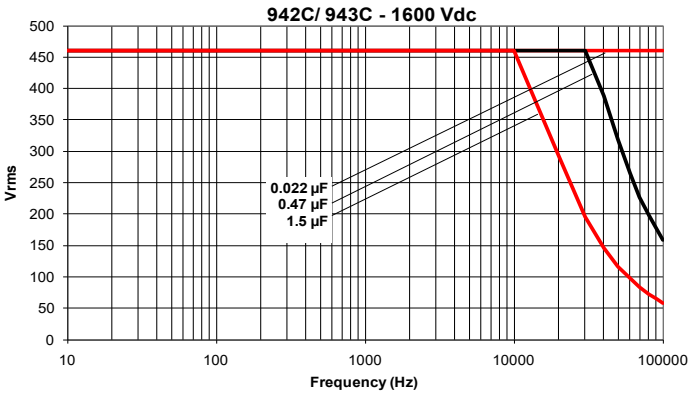
RMS Voltage vs Frequency @ 25 ºC

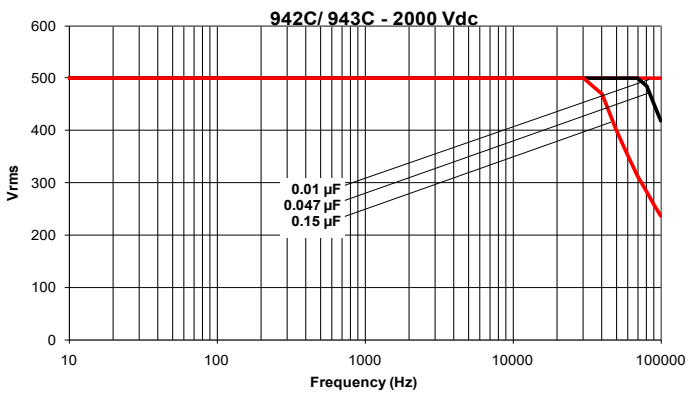








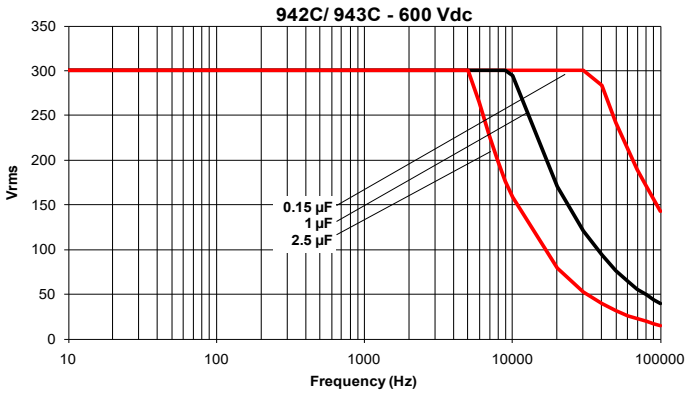


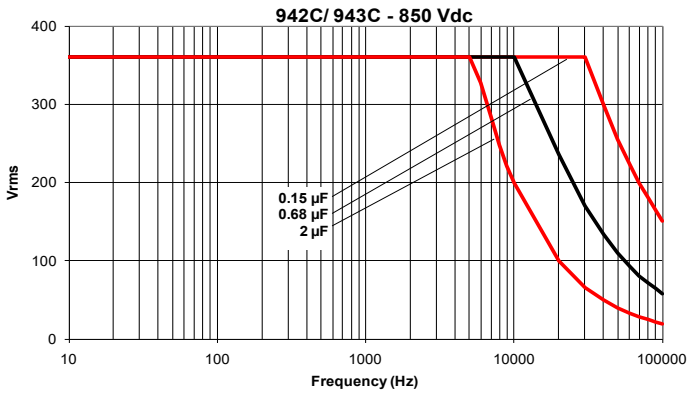


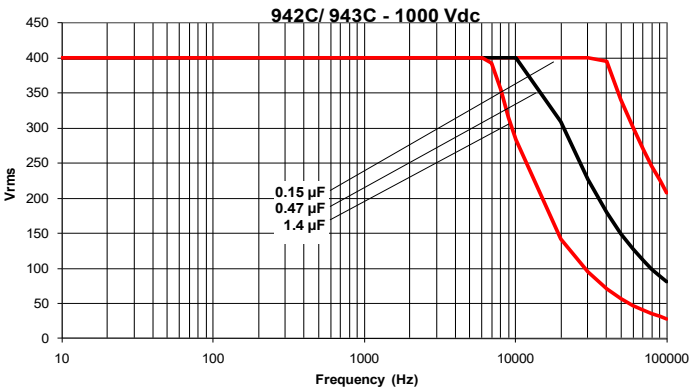
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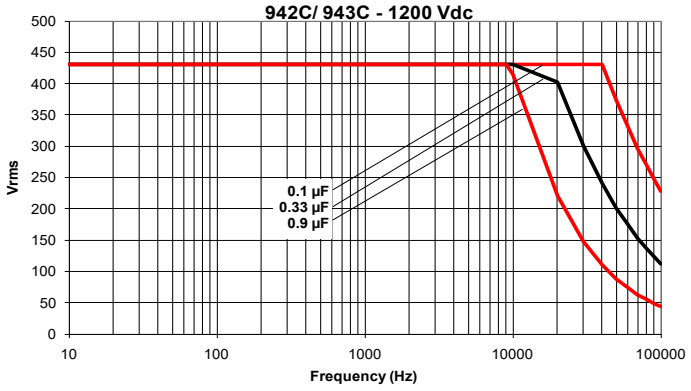
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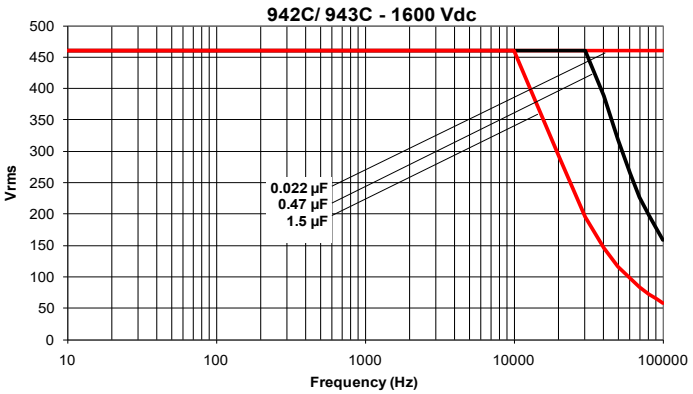
RMS Voltage vs Frequency @ 25 ºC

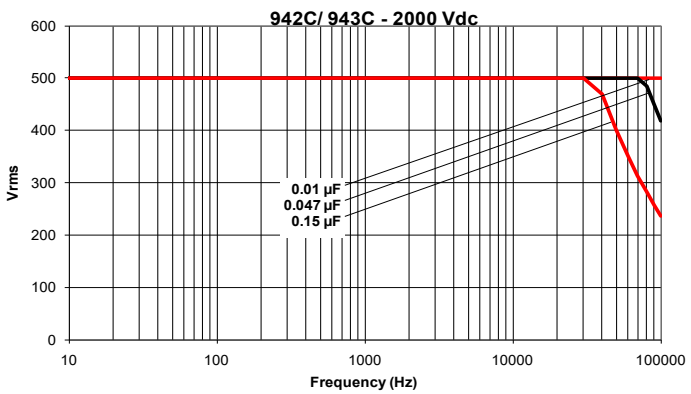












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