

Type 940, Polypropylene Capacitors, for Pulse, Snubber

High dV/dt for Snubber Applications



Type 940 round, axial leaded film capacitors have polypropylene film and dual metallized electrodes for both self healing properties and high peak current carrying capability (dV/dt). This series features low ESR characteristics, excellent high frequency and high voltage capabilities.

Highlights

- High dV/dt
- High pulse current
- Low inductance
- Self healing

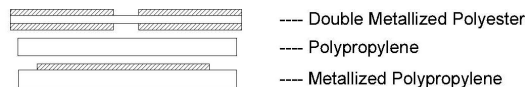
Specifications

Capacitance Range	0.01 to 4.7 μ F
Capacitance Tolerance	\pm 10 % (K) Standard; \pm 5% (J) Optional
Rated Voltage	600 to 3000 Vdc (275 to 500 Vac, 60 Hz)
Operating Temperature Range	-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

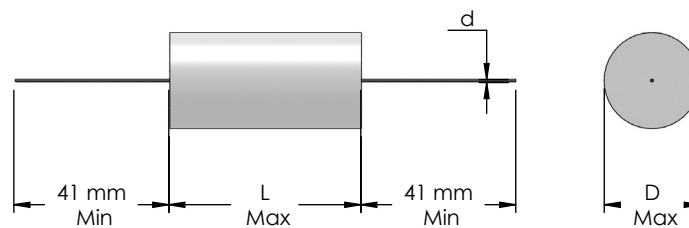
Dimensions

Construction Diagram



Construction Details

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



Type 940, Polypropylene Capacitors, for Pulse, Snubber

High dV/dt for Snubber Applications

Part Numbering System

940 Series	C Termination Code	6 Voltage Code	P Capacitance Decimal Point	22 Capacitance Significant figures in μF	K Tolerance Code	-F RoHS Compliant Indicator
940	C = Tinned Copper Wire F = Insulated Stranded Wire H = Tinned Lugs	6 = 600 Vdc 8 = 800 Vdc 10 = 1000 Vdc 12 = 1200 Vdc	16 = 1600 Vdc 20 = 2000 Vdc 30 = 3000 Vdc W = No decimal point	S = 0.0 P = 0. W = No decimal point	K = $\pm 10\%$ J = $\pm 5\%$	

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

Ratings

Cap.	Catalog Part Number	D	L	d	Typical ESR	Typical ESL	dV/dt	I peak	I_{RMS} 70 °C
(μF)		mm	mm	mm	(m Ω)	(nH)	V/ μs	(A)	100 kHz (A)
600 Vdc (275 Vac)									
.10	940C6P1K-F	9.0	34.0	0.8	28	19	196	20	2.5
.15	940C6P15K-F	10.5	34.0	0.8	13	20	196	29	4.0
.22	940C6P22K-F	11.5	34.0	0.8	12	20	196	43	4.4
.33	940C6P33K-F	13.5	34.0	0.8	9	21	196	65	5.6
.47	940C6P47K-F	15.5	34.0	1.0	7	22	196	92	6.9
.68	940C6P68K-F	18.0	34.0	1.0	6	23	196	134	8.1
1.00	940C6W1K-F	21.0	34.0	1.0	6	24	196	196	8.9
1.50	940C6W1P5K-F	25.0	34.0	1.2	5	26	196	295	10.9
2.00	940C6W2K-F	23.5	46.0	1.2	5	31	128	255	11.8
3.30	940C6W3P3K-F	27.0	54.0	1.2	4	36	105	346	15.3
4.70	940C6W4P7K-F	31.5	54.0	1.2	4	38	105	492	16.8
850 Vdc (450 Vac)									
.15	940C8P15K-F	13.0	34.0	0.8	8	21	713	107	5.8
.22	940C8P22K-F	15.5	34.0	1.0	8	22	713	157	6.4
.33	940C8P33K-F	18.0	34.0	1.0	7	23	713	235	7.5
.47	940C8P47K-F	21.0	34.0	1.0	5	24	713	335	9.8
.68	940C8P68K-F	24.5	34.0	1.2	4	26	713	485	12.0
1.00	940C8W1K-F	22.5	46.0	1.2	5	30	400	400	11.5
1.50	940C8W1P5K-F	27.0	46.0	1.2	4	32	400	600	14.3
2.00	940C8W2K-F	30.5	46.0	1.2	3	34	400	800	17.9
2.20	940C8W2P2K-F	32.0	46.0	1.2	3	34	400	880	18.4
2.50	940C8W2P5K-F	34.0	46.0	1.2	3	35	400	1000	19.1
1000 Vdc (500 Vac)									
.15	940C10P15K-F	15.0	34.0	1.0	7	22	856	128	6.7
.22	940C10P22K-F	17.5	34.0	1.0	7	23	856	188	7.4
.33	940C10P33K-F	20.5	34.0	1.0	6	24	856	283	8.8
.47	940C10P47K-F	24.0	34.0	1.2	5	26	856	402	10.6
.68	940C10P68K-F	28.0	34.0	1.2	5	27	856	582	11.7
1.00	940C10W1K-F	26.0	46.0	1.2	5	32	480	480	12.5
1.50	940C10W1P5K-F	31.0	46.0	1.2	4	34	480	720	15.6
2.00	940C10W2K-F	35.5	46.0	1.2	3	36	480	960	19.6

Type 940, Polypropylene Capacitors, for Pulse, Snubber

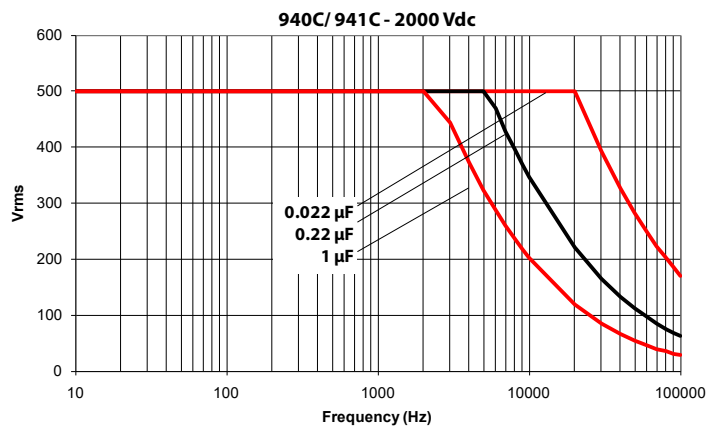
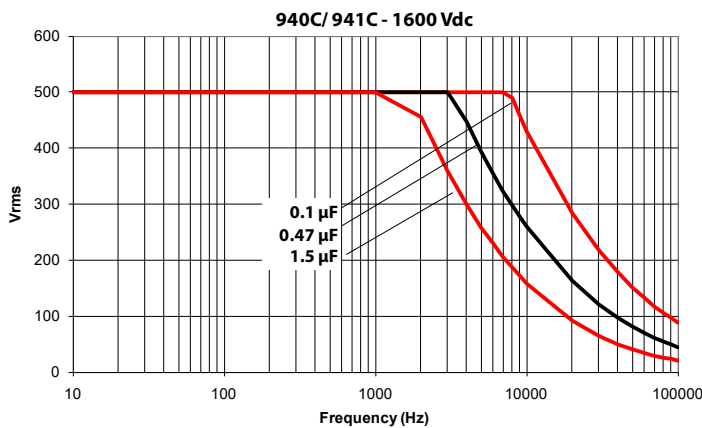
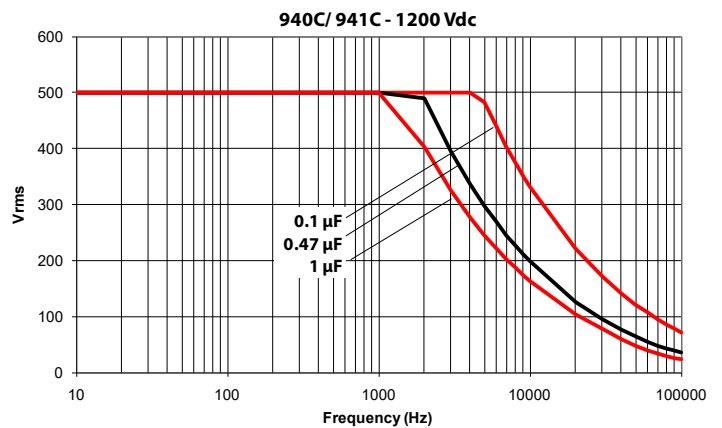
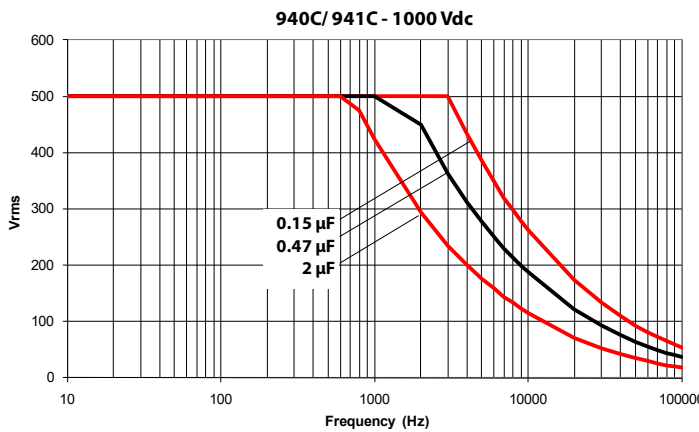
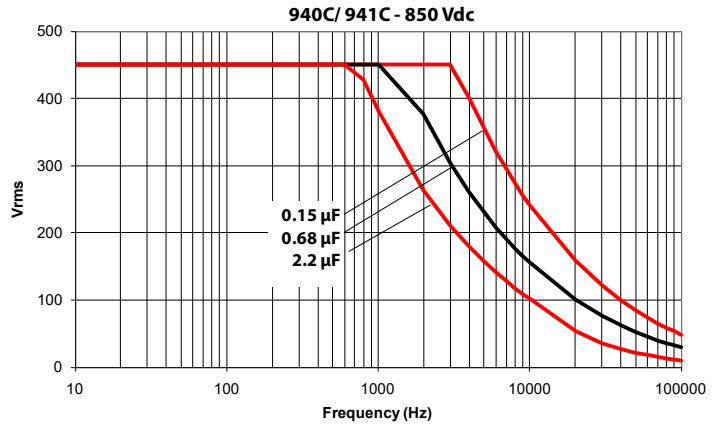
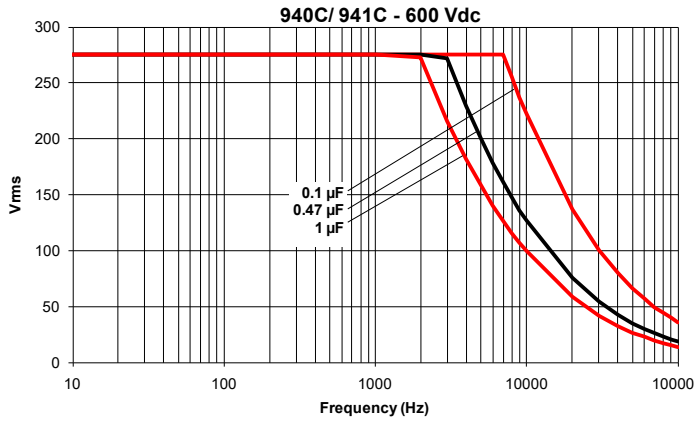
High dV/dt for Snubber Applications

Cap. (μ F)	Catalog Part Number	D mm	L mm	d mm	Typical ESR (m Ω)	Typical ESL (nH)	dV/dt V/ μ s	I peak (A)	I _{RMS} 70 °C 100 kHz (A)
1200 Vdc (500 Vac)									
.10	940C12P1K-F	15.5	34.0	1.0	9	22	1142	114	6.1
.15	940C12P15K-F	18.5	34.0	1.0	7	23	1142	171	7.6
.22	940C12P22K-F	21.5	34.0	1.0	7	24	1142	251	8.4
.33	940C12P33K-F	20.0	46.0	1.0	7	29	640	211	9.0
.47	940C12P47K-F	23.0	46.0	1.2	7	30	640	301	9.8
.68	940C12P68K-F	27.0	46.0	1.2	6	32	640	435	11.7
1.00	940C12W1K-F	33.0	46.0	1.2	5	35	640	640	14.5
1.50	940C12W1P5K-F	35.0	54.0	1.2	4	39	502	754	17.9
1600 Vdc (500 Vac)									
.10	940C16P1K-F	18.0	34.0	1.0	7	23	1427	143	7.5
.15	940C16P15K-F	21.5	34.0	1.0	5	24	1427	214	9.9
.22	940C16P22K-F	25.5	34.0	1.2	7	26	1427	314	9.3
.33	940C16P33K-F	23.5	46.0	1.2	7	31	800	264	10.0
.47	940C16P47K-F	27.5	46.0	1.2	6	32	800	376	11.8
.68	940C16P68K-F	32.5	46.0	1.2	6	35	800	544	13.1
1.00	940C16W1K-F	39.0	46.0	1.2	5	37	800	800	16.2
1.50	940C16W1P5K-F	42.0	54.0	1.2	4	42	628	942	20.1
2000 Vdc (500 Vac)									
.022	940C20S22K-F	11.5	34.0	0.8	35	6	1712	38	2.6
.033	940C20S33K-F	13.5	34.0	0.8	20	21	1712	57	3.8
.047	940C20S47K-F	15.0	34.0	1.0	12	22	1712	80	5.2
.068	940C20S68K-F	17.5	34.0	1.0	8	23	1712	116	6.9
.100	940C20P1K-F	21.0	34.0	1.0	7	24	1712	171	8.3
.150	940C20P15K-F	19.5	46.0	1.0	7	29	960	144	8.9
.220	940C20P22K-F	22.0	46.0	1.0	8	30	960	211	9.0
.330	940C20P33K-F	27.0	46.0	1.2	8	32	960	317	10.1
.470	940C20P47K-F	32.0	46.0	1.2	6	34	960	451	13.0
.560	940C20P56K-F	31.0	54.0	1.2	7	37	754	422	12.6
.680	940C20P68K-F	34.0	54.0	1.2	6	39	754	513	14.3
1.00	940C20W1K-F	41.0	54.0	1.2	5	42	754	754	17.7
3000 Vdc (500 Vac)									
.010	940C30S1K-F	11.5	34.0	0.8	60	20	2568	26	2.0
.015	940C30S15K-F	13.5	34.0	0.8	40	21	2568	39	2.7
.022	940C30S22K-F	15.5	34.0	1.0	25	22	2568	57	3.6
.033	940C30S33K-F	18.0	34.0	1.0	14	23	2568	85	5.3
.047	940C30S47K-F	16.5	46.0	1.0	14	28	1440	68	5.7
.068	940C30S68K-F	19.0	46.0	1.0	12	29	1440	98	6.7
.100	940C30P1K-F	22.5	46.0	1.2	10	30	1440	144	8.1
.150	940C30P15K-F	27.0	46.0	1.2	8	32	1440	216	10.1

Type 940, Polypropylene Capacitors, for Pulse, Snubber

High dV/dt for Snubber Applications

RMS Voltage vs Frequency @ 25 °C



Notice and Disclaimer: All product drawings, descriptions, specifications, statements, information and data (collectively, the “Information”) in this datasheet or other publication are subject to change. The customer is responsible for checking, confirming and verifying the extent to which the Information contained in this datasheet or other publication is applicable to an order at the time the order is placed. All Information given herein is believed to be accurate and reliable, but it is presented without any guarantee, warranty, representation or responsibility of any kind, expressed or implied. Statements of suitability for certain applications are based on the knowledge that the Cornell Dubilier company providing such statements (“Cornell Dubilier”) has of operating conditions that such Cornell Dubilier company regards as typical for such applications, but are not intended to constitute any guarantee, warranty or representation regarding any such matter – and Cornell Dubilier specifically and expressly disclaims any guarantee, warranty or representation concerning the suitability for a specific customer application, use, storage, transportation, or operating environment. The Information is intended for use only by customers who have the requisite experience and capability to determine the correct products for their application. Any technical advice inferred from this Information or otherwise provided by Cornell Dubilier with reference to the use of any Cornell Dubilier products is given gratis (unless otherwise specified by Cornell Dubilier), and Cornell Dubilier assumes no obligation or liability for the advice given or results obtained. Although Cornell Dubilier strives to apply the most stringent quality and safety standards regarding the design and manufacturing of its products, in light of the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies or other appropriate protective measures) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage. Although all product-related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicated in such warnings, cautions and notes, or that other safety measures may not be required.