

# Type 930 Polypropylene Film Capacitors

## Axial Leaded Metallized Polypropylene

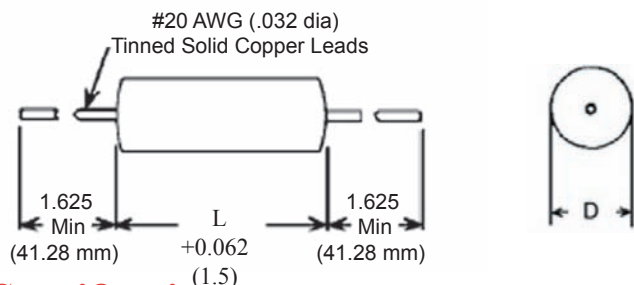


Type 930 axial-leaded, metallized polypropylene capacitors are available in a wide range of capacitance values in small case sizes with a flame-retardant tape wrap and epoxy end seals that provide moisture resistance. Type 930 is used most frequently in high-voltage/high-frequency switching power supplies where superior stability and AC performance characteristics are important. This film capacitor has Underwriters Laboratories, Inc. recognition for construction only under U.L. File Number E128034(N).

### Highlights

- Small case sizes
- Ripple Current Capacity
- Suitable for high frequency operation

### Outline Drawing



**NOTE:** Other capacitance values, sizes and performance specifications are available. Contact us.

### Specifications



Complies with the EU Directive 2002/95/EC requirement restricting the use of Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent chromium (Cr(VI)), PolyBrominated Biphenyls (PBB) and PolyBrominated Diphenyl Ethers (PBDE).

- Capacitance Range:** .022 to 10.0  $\mu$ F
- Voltage Range:** 100 to 630 Vdc (70 to 275 Vac 60 Hz)
- Capacitance Tolerance:**  $\pm$ 10% (K) Standard;  $\pm$ 5% (J) Optional
- 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
- Dielectric Withstand voltage:** 200% for 1 minute
- Dissipation Factor (DF):** 0.10% Max. (25  $^{\circ}$ C, 1 kHz)
- Insulation Resistance:** 200,000 M $\Omega$  x  $\mu$ F  
400,000 M $\Omega$  Min.
- Life Test:** 1,000 hours at 85  $^{\circ}$ C at 125% rated voltage

### Ratings

Cap. ( $\mu$ F)	Catalog Part Number	D		L		ESR 20-100 kHz (milliohms)	dV/dt (V/ $\mu$ s)	Maximum Ripple Current (Amps rms) at 20 kHz Case Temperature											
		Max. Inches	(mm)	+0.062 (1.5) Inches	(mm)			+25 $^{\circ}$ C	+35 $^{\circ}$ C	+45 $^{\circ}$ C	+55 $^{\circ}$ C	+65 $^{\circ}$ C	+75 $^{\circ}$ C	+85 $^{\circ}$ C					
100 Vdc (70 Vac)																			
.22	930C1P22K-F	.275	(7.0)	.750	(19.0)	---	25												
.27	930C1P27K-F	.298	(7.6)	.750	(19.0)	---	25												
.33	930C1P33K-F	.324	(8.2)	.750	(19.0)	---	25												
.39	930C1P39K-F	.347	(8.8)	.750	(19.0)	---	25												
.47	930C1P47K-F	.376	(9.5)	.750	(19.0)	37	25	3.7	3.4	3.1	2.8	2.5	2.0	1.4					
.56	930C1P56K-F	.321	(8.2)	1.000	(25.4)	35	14	3.9	3.6	3.3	2.9	2.6	2.1	1.5					
.68	930C1P68K-F	.348	(8.8)	1.000	(25.4)	33	14	4.1	3.8	3.5	3.1	2.8	2.2	1.6					
.82	930C1P82K-F	.377	(9.6)	1.000	(25.4)	31	14	4.3	4.0	3.6	3.2	2.9	2.3	1.7					
1.00	930C1W1K-F	.421	(10.7)	1.000	(25.4)	26	14	5.5	5.1	4.7	4.2	3.6	2.8	2.6					

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Cap. ( $\mu$ F)	Catalog Part Number	D Max.		L +0.062 (1.5)		ESR 20-100 kHz		dV/dt		Maximum Ripple Current (Amps rms) at 20 kHz						
		Inches	(mm)	Inches	(mm)	(milliohms)	(V/ $\mu$ s)	Case Temperature								
		+25 °C	+35 °C	+45 °C	+55 °C	+65 °C	+75 °C	+85 °C								
<b>100 Vdc (70 Vac)</b>																
1.20	930C1W1P2K-F	.454	(11.5)	1.000	(25.4)	24	14	5.7	5.3	4.9	4.4	3.8	3.0	2.8		
1.50	930C1W1P5K-F	.500	(12.7)	1.000	(25.4)	20	14	6.1	5.5	5.1	4.6	4.0	3.2	3.1		
1.80	930C1W1P8K-F	.541	(13.7)	1.000	(25.4)	19	14	6.3	5.7	5.3	4.8	4.1	3.4	3.0		
2.00	930C1W2K-F	.486	(12.3)	1.250	(31.7)	18	10	6.5	6.0	5.5	4.9	4.2	3.5	3.2		
2.20	930C1W2P2K-F	.507	(12.9)	1.250	(31.7)	18	10	6.8	6.3	5.7	2.1	4.4	3.6	3.3		
2.70	930C1W2P7K-F	.554	(14.1)	1.250	(31.7)	17	10	7.1	6.5	6.0	5.3	4.6	3.7	3.4		
3.00	930C1W3K-F	.581	(14.8)	1.250	(31.7)	16	10	7.3	6.7	6.2	5.5	4.8	3.9	3.5		
3.30	930C1W3P3K-F	.606	(15.4)	1.250	(31.7)	16	10	7.4	6.8	6.4	5.6	4.9	4.0	3.6		
3.90	930C1W3P9K-F	.654	(16.6)	1.250	(31.7)	15	10	7.6	6.9	6.6	5.8	5.1	4.1	3.7		
4.00	930C1W4K-F	.537	(13.6)	1.750	(44.4)	15	6	7.8	7.0	6.7	5.9	5.2	4.2	3.8		
4.70	930C1W4P7K-F	.577	(14.7)	1.750	(44.4)	15	6	8.1	7.4	6.8	6.0	5.3	4.3	3.9		
5.00	930C1W5K-F	.593	(15.1)	1.750	(44.4)	14	6	8.3	7.6	7.0	6.2	5.4	4.4	4.0		
5.60	930C1W5P6K-F	.624	(15.8)	1.750	(44.4)	14	6	8.4	7.7	7.1	6.4	5.5	4.5	4.1		
6.00	930C1W6K-F	.644	(16.4)	1.750	(44.4)	14	6	8.5	7.8	7.2	6.5	5.6	4.6	4.2		
6.80	930C1W6P8K-F	.682	(17.3)	1.750	(44.4)	13	6	8.5	8.0	7.4	6.7	5.7	4.7	4.3		
8.00	930C1W8K-F	.735	(18.7)	1.750	(44.4)	13	6	8.6	8.3	7.7	6.8	6.0	4.8	4.4		
8.20	930C1W8P2K-F	.743	(18.9)	1.750	(44.4)	13	6	8.8	8.6	8.0	7.0	6.1	4.9	4.5		
10.00	930C1W10K-F	.815	(20.7)	1.750	(44.4)	12	6	9.0	9.0	8.5	7.6	6.6	5.4	4.9		
<b>250 Vdc (175 Vac)</b>																
.10	930C2P1K-F	.315	(8.0)	.750	(19.0)	---	37									
.12	930C2P12K-F	.315	(8.0)	.750	(19.0)	---	37									
.15	930C2P15K-F	.335	(8.5)	.750	(19.0)	---	37									
.18	930C2P18K-F	.353	(9.0)	.750	(19.0)	---	37									
.22	930C2P22K-F	.335	(8.5)	1.000	(25.4)	---	21									
.27	930C2P27K-F	.335	(8.5)	1.000	(25.4)	---	21									
.33	930C2P33K-F	.362	(9.2)	1.000	(25.4)	---	21									
.39	930C2P39K-F	.389	(9.9)	1.000	(25.4)	---	21									
.47	930C2P47K-F	.422	(10.7)	1.000	(25.4)	35	21	3.8	3.7	3.6	3.4	2.9	2.4	1.7		
.56	930C2P56K-F	.464	(11.8)	1.000	(25.4)	33	21	3.9	3.8	3.7	3.5	3.1	2.5	1.8		
.68	930C2P68K-F	.472	(12.0)	1.250	(31.7)	32	15	4.0	3.9	3.8	3.7	3.2	2.6	1.9		
.82	930C2P82K-F	.471	(12.0)	1.250	(31.7)	31	15	4.2	4.1	4.0	3.9	3.4	2.8	2.0		
1.00	930C2W1K-F	.513	(13.0)	1.260	(32.0)	28	15	4.4	4.4	4.4	4.4	4.3	3.5	3.2		
1.20	930C2W1P2K-F	.554	(14.1)	1.260	(32.0)	27	15	4.7	4.6	4.5	5.0	4.5	3.7	3.3		
1.50	930C2W1P5K-F	.613	(15.6)	1.260	(32.0)	26	15	5.1	5.0	4.9	4.4	4.7	3.9	3.5		
1.80	930C2W1P8K-F	.667	(16.9)	1.250	(31.7)	25	15	5.9	5.8	5.7	5.7	5.0	4.1	3.7		
2.00	930C2W2K-F	.700	(17.8)	1.250	(31.7)	21	15	7.2	7.2	6.8	6.0	5.2	4.3	3.9		
2.20	930C2W2P2K-F	.650	(16.5)	1.750	(44.4)	20	9	8.4	7.5	7.0	6.3	5.4	4.5	4.1		
2.70	930C2W2P7K-F	.669	(17.0)	1.750	(44.4)	19	9	8.6	7.8	7.3	6.6	5.7	4.7	4.3		
3.00	930C2W3K-F	.703	(17.8)	1.750	(44.4)	18	9	9.0	8.3	7.6	6.8	5.9	4.8	4.4		
3.30	930C2W3P3K-F	.734	(18.6)	1.750	(44.4)	18	9	9.0	8.4	7.8	7.0	6.0	4.9	4.5		
3.90	930C2W3P9K-F	.794	(20.2)	1.750	(44.4)	17	9	9.0	8.5	8.0	7.2	6.2	5.0	4.6		
4.00	930C2W4K-F	.803	(20.4)	1.750	(44.4)	16	9	9.0	8.5	8.2	7.4	6.3	5.1	4.7		
4.70	930C2W4P7K-F	.866	(22.0)	1.750	(44.4)	16	9	9.0	8.8	8.5	7.7	6.6	5.3	4.9		
5.00	930C2W5K-F	.892	(22.6)	1.750	(44.4)	15	9	9.0	9.0	8.8	7.9	6.8	5.6	5.1		
5.60	930C2W5P6K-F	.941	(23.9)	1.750	(44.4)	15	9	9.0	9.0	8.9	8.0	7.0	5.8	5.3		
6.00	930C2W6K-F	.972	(24.7)	1.750	(44.4)	15	9	9.0	9.0	9.0	8.2	7.2	5.9	5.5		
6.80	930C2W6P8K-F	.882	(22.4)	2.250	(57.1)	15	9	9.0	9.0	9.0	8.4	7.4	6.0	5.6		
8.00	930C2W8K-F	.953	(24.2)	2.250	(57.1)	14	9	9.0	9.0	9.0	8.7	7.8	6.3	5.8		
8.20	930C2W8P2K-F	.964	(24.5)	2.250	(57.1)	14	9	9.0	9.0	9.0	8.8	7.9	6.4	5.9		
10.00	930C2W10K-F	1.060	(26.9)	2.250	(57.1)	13	9	9.0	9.0	9.0	9.0	8.3	6.8	6.2		

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Cap. ( $\mu$ F)	Catalog Part Number	D Max. Inches(mm)	L +0.062 (1.5) Inches(mm)	ESR 20-100 kHz (milliohms)	dV/dt (V/ $\mu$ s)	Maximum Ripple Current (Amps rms) at 20 kHz						
						Case Temperature						
						+25 °C	+35 °C	+45 °C	+55 °C	+65 °C	+75 °C	+85 °C
<b>400 Vdc (250 Vac)</b>												
.047	930C4S47K-F	.315 (8.0)	.750 (19.0)	---	49							
.056	930C4S56K-F	.315 (8.0)	.750 (19.0)	---	49							
.068	930C4S68K-F	.315 (8.0)	.750 (19.0)	---	49							
.082	930C4S82K-F	.320 (8.1)	.750 (19.0)	---	49							
.10	930C4P1K-F	.348 (8.8)	.750 (19.0)	---	49							
.12	930C4P12K-F	.299 (7.6)	1.000 (25.4)	---	28							
.15	930C4P15K-F	.335 (8.5)	1.000 (25.4)	---	28							
.18	930C4P18K-F	.353 (9.0)	1.000 (25.4)	---	28							
.22	930C4P22K-F	.385 (9.8)	1.000 (25.4)	---	28							
.27	930C4P27K-F	.421 (10.7)	1.000 (25.4)	---	28							
.33	930C4P33K-F	.469 (11.9)	1.000 (25.4)	---	28							
.39	930C4P39K-F	.503 (12.8)	1.000 (25.4)	---	28							
.47	930C4P47K-F	.545 (13.8)	1.000 (25.4)	32	20	5.7	5.5	5.0	4.4	3.8	3.2	2.2
.56	930C4P56K-F	.503 (12.8)	1.260 (32.0)	31	20	5.7	5.7	5.3	4.4	4.1	3.3	2.3
.68	930C4P68K-F	.551 (14.0)	1.260 (32.0)	30	20	5.7	5.7	5.5	4.8	4.3	3.5	2.4
.82	930C4P82K-F	.599 (15.2)	1.260 (32.0)	28	20	5.7	5.7	5.6	5.3	4.5	3.7	2.6
1.00	930C4W1K-F	.655 (16.6)	1.260 (32.0)	27	20	5.7	5.7	5.7	5.7	5.7	4.7	4.3
1.20	930C4W1P2K-F	.712 (18.1)	1.260 (32.0)	26	20	6.3	6.2	6.0	5.9	5.8	4.9	4.5
1.50	930C4W1P5K-F	.709 (18.0)	1.750 (44.4)	25	13	7.0	6.9	6.7	6.6	6.5	5.2	4.7
1.80	930C4W1P8K-F	.716 (18.2)	1.750 (44.4)	23	13	8.0	7.9	7.8	7.7	6.8	5.5	5.0
2.00	930C4W2K-F	.752 (19.1)	1.750 (44.4)	21	13	9.0	9.0	9.0	8.0	7.0	5.7	5.2
2.20	930C4W2P2K-F	.827 (21.0)	1.750 (44.4)	20	13	9.0	9.0	9.0	8.3	7.4	5.9	5.4
2.70	930C4W2P7K-F	.865 (22.0)	1.750 (44.4)	19	13	9.0	9.0	9.0	8.6	7.6	6.0	5.6
3.00	930C4W3K-F	.909 (23.1)	1.750 (44.4)	17	13	9.0	9.0	9.0	9.0	7.9	6.4	5.9
3.30	930C4W3P3K-F	.951 (24.1)	1.750 (44.4)	16	13	9.0	9.0	9.0	9.0	8.1	6.6	6.3
3.90	930C4W3P9K-F	1.031 (26.2)	1.750 (44.4)	15	13	9.0	9.0	9.0	9.0	8.3	6.8	6.5
<b>630 Vdc (275 Vac)</b>												
.022	930C6S22K-F	.315 (8.0)	.750 (19.0)	---	74							
.027	930C6S27K-F	.315 (8.0)	.750 (19.0)	---	74							
.033	930C6S33K-F	.334 (8.5)	.750 (19.0)	---	74							
.039	930C6S39K-F	.358 (9.1)	.750 (19.0)	---	74							
.047	930C6S47K-F	.388 (9.9)	.750 (19.0)	---	74							
.056	930C6S56K-F	.418 (10.6)	.750 (19.0)	---	74							
.068	930C6S68K-F	.354 (9.0)	1.000 (25.4)	---	43							
.082	930C6S82K-F	.374 (9.5)	1.000 (25.4)	---	43							
.10	930C6P1K-F	.433 (11.0)	1.000 (25.4)	---	43							
.12	930C6P12K-F	.443 (11.2)	1.000 (25.4)	---	43							
.15	930C6P15K-F	.512 (13.0)	1.260 (32.0)	---	30							
.18	930C6P18K-F	.538 (13.7)	1.260 (32.0)	---	30							
.22	930C6P22K-F	.496 (12.6)	1.260 (32.0)	---	30							
.27	930C6P27K-F	.542 (13.8)	1.260 (32.0)	---	30							
.33	930C6P33K-F	.593 (15.1)	1.260 (32.0)	---	30							
.39	930C6P39K-F	.639 (16.2)	1.260 (32.0)	---	30							
.47	930C6P47K-F	.696 (17.7)	1.457 (37.0)	28	20	6.8	6.3	5.8	5.2	4.5	3.6	2.6
.56	930C6P56K-F	.608 (15.4)	1.750 (44.4)	26	19	7.4	6.9	6.3	5.6	4.8	4.0	2.8
.68	930C6P68K-F	.709 (18.0)	1.750 (44.4)	25	19	7.8	7.2	6.6	5.9	5.1	4.2	2.9
.82	930C6P82K-F	.724 (18.4)	1.750 (44.4)	22	19	8.1	7.5	6.9	6.2	5.3	4.3	3.1
1.00	930C6W1K-F	.794 (20.2)	1.850 (47.0)	18	19	8.6	7.9	7.3	6.5	5.6	4.6	3.6