

# Type 930 Polypropylene Film Capacitors

## Axial Leaded Metallized Polypropylene

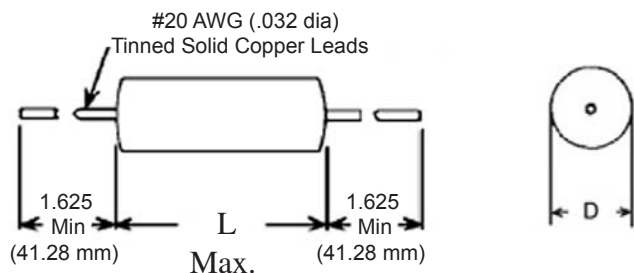


Type 930 axial-leaded, metallized polypropylene capacitors are available in a wide range of capacitance values in small case sizes with a flame-retardant tape wrap and epoxy end seals that provide moisture resistance. Type 930 is used most frequently in high-voltage/high-frequency switching power supplies 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

- Capacitance Range:** .022 to 10.0  $\mu\text{F}$
- 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:**  $-55\text{ }^\circ\text{C}$  to  $+105\text{ }^\circ\text{C}^*$   
\*Full rated voltage at  $85\text{ }^\circ\text{C}$  - derated linearly to 50% rated at  $105\text{ }^\circ\text{C}$
- Dielectric Withstand voltage:** 200% for 1 minute
- Dissipation Factor (DF):** 0.10% Max. ( $25\text{ }^\circ\text{C}$ , 1 kHz)
- Insulation Resistance:** 200,000  $\text{M}\Omega \times \mu\text{F}$   
400,000  $\text{M}\Omega$  Min.
- Life Test:** 1,000 hours at  $85\text{ }^\circ\text{C}$  at 125% rated voltage

### Ratings

### RoHS Compliant

Cap. ( $\mu\text{F}$ )	Catalog Part Number	D		L		ESR 20-100 kHz (milliohms)	dV/dt ( $\text{V}/\mu\text{s}$ )	Maximum Ripple Current (Amps rms) at 20 kHz Case Temperature											
		Max. Inches	Max. (mm)	Max. Inches	Max. (mm)			+25 $^\circ\text{C}$	+35 $^\circ\text{C}$	+45 $^\circ\text{C}$	+55 $^\circ\text{C}$	+65 $^\circ\text{C}$	+75 $^\circ\text{C}$	+85 $^\circ\text{C}$					
<b>100 Vdc (70 Vac)</b>																			
.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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RoHS Compliant

Cap. ( $\mu$ F)	Catalog Part Number	D		L		ESR		Maximum Ripple Current (Amps rms) at 20 kHz						
		Max.		Max.		20-100 kHz	dV/dt	Case Temperature						
		Inches	(mm)	Inches	(mm)	(milliohms)	(V/ $\mu$ s)	+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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## RoHS Compliant

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						
		Max.		Max.				Case Temperature						
		Inches(mm)		Inches(mm)				+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