

# Type WPP Film/Foil Polypropylene Capacitors

## Axial Leded High Frequency Pulse Capacitors



Type WPP axial-leaded, polypropylene film/foil capacitors incorporate non-inductive extended foil construction with epoxy end seals. Type WPP is rated for continuous-duty operation over the temperature range of  $-55\text{ }^{\circ}\text{C}$  to  $105\text{ }^{\circ}\text{C}$  without voltage derating. Low ESR, low dissipation factor and the inherent stability make Type WPP ideal for tight tolerance, pulse and high frequency applications

### Highlights

- High pulse rating
- High frequency operation
- Low ESR
- Low DF
- Precise values

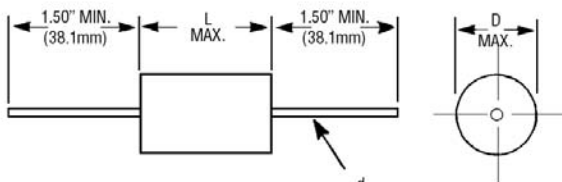
### Specifications

<b>Capacitance Range:</b>	.001 to 5.0 $\mu\text{F}$
<b>Voltage Range:</b>	100 to 1000 Vdc (70 to 250 Vac, 60 Hz)
<b>Capacitance Tolerance:</b>	$\pm 10\%$ (K) Standard, $\pm 5\%$ (J) Special Order
<b>Operating Temperature Range:</b>	$-55$ to $105\text{ }^{\circ}\text{C}$
<b>Dielectric Strength:</b>	160% rated voltage for 1 minute
<b>Dissipation Factor:</b>	0.1% Max @ $25\text{ }^{\circ}\text{C}$ , 1 kHz
<b>Insulation Resistance:</b>	100,000 $\text{M}\Omega \times \mu\text{F}$ 200,000 $\text{M}\Omega$ Min.
<b>Life Test:</b>	500 h @ $85\text{ }^{\circ}\text{C}$ at 125% rated voltage

### Pulse Capability:

Rated Voltage	Pulse Capability					
	Body Length					
	0.625	.750-.875	.937-1.125	1.250-1.312	1.375-1.562	$\geq 1.750$
	dv/dt – volts per microsecond, maximum					
100	4200	4000	2900	1900	1600	1100
200	6900	4100	3000	2400	2000	1400
400	19500	10000	3900		2600	2200
600	60000	20000	12000	6700		3000
1000		37000	15000	9200	7400	3400

### Outline Drawing



**Note:** Other capacitance values, sizes and performance specifications are available. Contact CDE.

### Ratings

Cap ( $\mu\text{F}$ )	Catalog Part Number	D Inches (mm)	L Inches (mm)	d Inches (mm)
<b>100 Vdc (70 Vac)</b>				
0.0010	WPP1D1K-F	0.220 (5.6)	0.625 (15.9)	0.020 (0.5)
0.0015	WPP1D15K-F	0.220 (5.6)	0.625 (15.9)	0.020 (0.5)
0.0022	WPP1D22K-F	0.220 (5.6)	0.625 (15.9)	0.020 (0.5)
0.0033	WPP1D33K-F	0.228 (5.8)	0.625 (15.9)	0.020 (0.5)
0.0047	WPP1D47K-F	0.240 (6.1)	0.625 (15.9)	0.020 (0.5)
0.0068	WPP1D68K-F	0.250 (6.3)	0.625 (15.9)	0.020 (0.5)

### RoHS Compliant

Cap ( $\mu\text{F}$ )	Catalog Part Number	D Inches (mm)	L Inches (mm)	d Inches (mm)
<b>100 Vdc (70 Vac)</b>				
0.0100	WPP1S1K-F	0.250 (6.3)	0.625 (15.9)	0.020 (0.5)
0.0150	WPP1S15K-F	0.250 (6.3)	0.625 (15.9)	0.020 (0.5)
0.0220	WPP1S22K-F	0.270 (6.9)	0.625 (15.9)	0.020 (0.5)
0.0330	WPP1S33K-F	0.319 (8.1)	0.625 (15.9)	0.024 (0.6)
0.0470	WPP1S47K-F	0.298 (7.6)	0.875 (22.2)	0.024 (0.6)
0.0680	WPP1S68K-F	0.350 (8.9)	0.875 (22.2)	0.024 (0.6)

# Type WPP Film/Foil Polypropylene Capacitors

## RoHS Compliant

Cap (µF)	Catalog Part Number	D Inches (mm)	L Inches (mm)	d Inches (mm)
<b>100 Vdc (70 Vac)</b>				
0.1000	WPP1P1K-F	0.403 (10.2)	0.906 (23.0)	0.024 (0.6)
0.1500	WPP1P15K-F	0.515 (13.1)	1.063 (27.0)	0.024 (0.6)
0.2200	WPP1P22K-F	0.529 (13.4)	1.260 (32.0)	0.024 (0.6)
0.3300	WPP1P33K-F	0.551 (14.0)	1.250 (31.7)	0.024 (0.6)
0.4700	WPP1P47K-F	0.622 (15.8)	1.250 (31.7)	0.032 (0.8)
0.6800	WPP1P68K-F	0.684 (17.4)	1.375 (34.9)	0.032 (0.8)
1.0000	WPP1W1K-F	0.810 (20.6)	1.375 (34.9)	0.040 (1.0)
1.5000	WPP1W1P5K-F	0.828 (21.0)	1.750 (44.4)	0.040 (1.0)
2.0000	WPP1W2K-F	0.934 (23.7)	1.750 (44.4)	0.040 (1.0)
2.5000	WPP1W2P5K-F	0.948 (24.1)	2.000 (50.8)	0.040 (1.0)
3.0000	WPP1W3K-F	1.030 (26.2)	2.000 (50.8)	0.040 (1.0)
3.3000	WPP1W3P3K-F	0.925 (23.5)	2.520 (64.0)	0.040 (1.0)
3.5000	WPP1W3P5K-F	0.965 (24.5)	2.520 (64.0)	0.040 (1.0)
4.0000	WPP1W4K-F	1.004 (25.5)	2.520 (64.0)	0.040 (1.0)
4.5000	WPP1W4P5K-F	1.063 (27.0)	2.520 (64.0)	0.040 (1.0)
5.0000	WPP1W5K-F	1.102 (28.0)	2.520 (64.0)	0.040 (1.0)
<b>200/250 Vdc (140 Vac)</b>				
0.0010	WPP2D1K-F	0.220 (5.6)	0.625 (15.9)	0.020 (0.5)
0.0015	WPP2D15K-F	0.220 (5.6)	0.625 (15.9)	0.020 (0.5)
0.0022	WPP2D22K-F	0.220 (5.6)	0.625 (15.9)	0.020 (0.5)
0.0033	WPP2D33K-F	0.228 (5.8)	0.625 (15.9)	0.020 (0.5)
0.0047	WPP2D47K-F	0.240 (6.1)	0.625 (15.9)	0.020 (0.5)
0.0068	WPP2D68K-F	0.250 (6.3)	0.625 (15.9)	0.020 (0.5)
0.0100	WPP2S1K-F	0.250 (6.3)	0.625 (15.9)	0.020 (0.5)
0.0150	WPP2S15K-F	0.276 (7.0)	0.625 (15.9)	0.020 (0.5)
0.0220	WPP2S22K-F	0.295 (7.5)	0.625 (15.9)	0.020 (0.5)
0.0330	WPP2S33K-F	0.319 (8.1)	0.625 (15.9)	0.024 (0.6)
0.0470	WPP2S47K-F	0.335 (8.5)	0.875 (22.2)	0.024 (0.6)
0.0680	WPP2S68K-F	0.350 (8.9)	0.906 (23.0)	0.024 (0.6)
0.1000	WPP2P1K-F	0.413 (10.5)	1.125 (28.6)	0.024 (0.6)
0.1500	WPP2P15K-F	0.492 (12.5)	1.312 (33.3)	0.024 (0.6)
0.2200	WPP2P22K-F	0.531 (13.5)	1.312 (33.3)	0.024 (0.6)
0.3300	WPP2P33K-F	0.591 (15.0)	1.750 (44.4)	0.024 (0.6)
0.4700	WPP2P47K-F	0.581 (14.8)	1.750 (44.4)	0.032 (0.8)
0.6800	WPP2P68K-F	0.684 (17.4)	1.750 (44.4)	0.032 (0.8)
1.0000	WPP2W1K-F	0.820 (20.8)	1.750 (44.4)	0.040 (1.0)
1.5000	WPP2W1P5K-F	0.922 (23.4)	2.000 (50.8)	0.040 (1.0)
2.0000	WPP2W2K-F	1.052 (26.7)	2.000 (50.8)	0.040 (1.0)
2.5000	WPP2W2P5K-F	0.965 (24.5)	2.520 (64.0)	0.040 (1.0)
3.0000	WPP2W3K-F	1.043 (26.5)	2.520 (64.0)	0.040 (1.0)
3.5000	WPP2W3P5K-F	1.102 (28.0)	2.520 (64.0)	0.040 (1.0)
<b>400 Vdc (250 Vac)</b>				
0.0010	WPP4D1K-F	0.220 (5.6)	0.625 (15.9)	0.020 (0.5)
0.0015	WPP4D15K-F	0.220 (5.6)	0.625 (15.9)	0.020 (0.5)
0.0022	WPP4D22K-F	0.220 (5.6)	0.625 (15.9)	0.020 (0.5)
0.0033	WPP4D33K-F	0.228 (5.8)	0.625 (15.9)	0.020 (0.5)
0.0047	WPP4D47K-F	0.256 (6.5)	0.750 (19.0)	0.020 (0.5)
0.0068	WPP4D68K-F	0.276 (7.0)	0.750 (19.0)	0.020 (0.5)
0.0100	WPP4S1K-F	0.290 (7.4)	0.750 (19.0)	0.024 (0.6)
0.0150	WPP4S15K-F	0.352 (8.9)	0.750 (19.0)	0.024 (0.6)

Cap (µF)	Catalog Part Number	D Inches (mm)	L Inches (mm)	d Inches (mm)
<b>400 Vdc (250 Vac)</b>				
0.0220	WPP4S22K-F	0.374 (9.5)	0.875 (22.2)	0.024 (0.6)
0.0330	WPP4S33K-F	0.374 (9.5)	1.062 (27.0)	0.024 (0.6)
0.0470	WPP4S47K-F	0.394 (10.0)	1.250 (31.7)	0.024 (0.6)
0.0680	WPP4S68K-F	0.415 (10.5)	1.250 (31.7)	0.024 (0.6)
0.1000	WPP4P1K-F	0.512 (13.0)	1.250 (31.7)	0.024 (0.6)
0.1500	WPP4P15K-F	0.615 (15.6)	1.250 (31.7)	0.032 (0.8)
0.2200	WPP4P22K-F	0.595 (15.1)	1.562 (39.7)	0.032 (0.8)
0.3300	WPP4P33K-F	0.673 (17.1)	1.750 (44.4)	0.032 (0.8)
0.4700	WPP4P47K-F	0.787 (20.0)	1.750 (44.4)	0.040 (1.0)
0.6800	WPP4P68K-F	0.852 (21.6)	2.000 (50.8)	0.040 (1.0)
1.0000	WPP4W1K-F	1.016 (25.8)	2.000 (50.8)	0.040 (1.0)
1.5000	WPP4W1P5K-F	1.043 (26.5)	2.520 (64.0)	0.040 (1.0)
<b>600/630 Vdc (250 Vac)</b>				
0.0010	WPP6D1K-F	0.253 (6.4)	0.625 (15.9)	0.020 (0.5)
0.0015	WPP6D15K-F	0.220 (5.6)	0.750 (19.0)	0.020 (0.5)
0.0022	WPP6D22K-F	0.226 (5.7)	0.750 (19.0)	0.020 (0.5)
0.0033	WPP6D33K-F	0.264 (6.7)	0.750 (19.0)	0.020 (0.5)
0.0047	WPP6D47K-F	0.295 (7.5)	0.812 (20.6)	0.020 (0.5)
0.0068	WPP6D68K-F	0.311 (7.9)	0.812 (20.6)	0.024 (0.6)
0.0100	WPP6S1K-F	0.338 (8.6)	0.937 (23.8)	0.024 (0.6)
0.0150	WPP6S15K-F	0.390 (9.9)	0.937 (23.8)	0.024 (0.6)
0.0220	WPP6S22K-F	0.424 (10.8)	1.062 (27.0)	0.024 (0.6)
0.0330	WPP6S33K-F	0.472 (12.0)	1.260 (32.0)	0.024 (0.6)
0.0470	WPP6S47K-F	0.512 (13.0)	1.260 (32.0)	0.024 (0.6)
0.0680	WPP6S68K-F	0.605 (15.4)	1.260 (32.0)	0.032 (0.8)
0.1000	WPP6P1K-F	0.690 (17.5)	1.125 (28.6)	0.404 (1.0)
0.1500	WPP6P15K-F	0.605 (15.4)	1.750 (44.4)	0.404 (1.0)
0.2200	WPP6P22K-F	0.715 (18.2)	1.750 (44.4)	0.404 (1.0)
0.3300	WPP6P33K-F	0.857 (21.8)	1.750 (44.4)	0.404 (1.0)
0.4700	WPP6P47K-F	0.922 (23.4)	2.000 (50.8)	0.404 (1.0)
0.6800	WPP6P68K-F	1.004 (25.5)	2.520 (64.0)	0.404 (1.0)
0.8200	WPP6P82K-F	1.102 (28.0)	2.520 (64.0)	0.404 (1.0)
<b>1000 Vdc (250 Vac)</b>				
0.0010	WPP10D1K-F	0.295 (7.5)	0.812 (20.6)	0.020 (0.5)
0.0015	WPP10D15K-F	0.315 (8.0)	0.812 (20.6)	0.020 (0.5)
0.0022	WPP10D22K-F	0.346 (8.8)	0.812 (20.6)	0.024 (0.6)
0.0033	WPP10D33K-F	0.374 (9.5)	0.812 (20.6)	0.024 (0.6)
0.0047	WPP10D47K-F	0.420 (10.7)	0.812 (20.6)	0.024 (0.6)
0.0068	WPP10D68K-F	0.453 (11.5)	1.000 (25.4)	0.024 (0.6)
0.0100	WPP10S1K-F	0.453 (11.5)	1.125 (28.6)	0.024 (0.6)
0.0150	WPP10S15K-F	0.492 (12.5)	1.125 (28.6)	0.024 (0.6)
0.0220	WPP10S22K-F	0.551 (14.0)	1.125 (28.6)	0.024 (0.6)
0.0330	WPP10S33K-F	0.575 (14.6)	1.457 (37.0)	0.032 (0.8)
0.0470	WPP10S47K-F	0.669 (17.0)	1.457 (37.0)	0.032 (0.8)
0.0680	WPP10S68K-F	0.717 (18.2)	1.375 (34.9)	0.040 (1.0)
0.1000	WPP10P1K-F	0.850 (21.6)	1.375 (34.9)	0.040 (1.0)
0.1500	WPP10P15K-F	1.023 (26.0)	1.375 (34.9)	0.040 (1.0)
0.2200	WPP10P22K-F	0.854 (21.7)	2.125 (54.0)	0.040 (1.0)
0.3300	WPP10P33K-F	1.025 (26.0)	2.125 (54.0)	0.040 (1.0)
0.4700	WPP10P47K-F	1.063 (27.0)	2.520 (64.0)	0.040 (1.0)
0.5000	WPP10P50K-F	1.083 (27.5)	2.520 (64.0)	0.040 (1.0)