

Metallized Polypropylene Film Capacitors for Power Semiconductor Circuits



- *Snubber Capacitor for Energy Conversion in Power Semiconductor Circuits.*
- *High Voltage*
- *SMPS*
- *Induction Heaters*
- *High Current*
- *High Pulse Current Applications*

Operating Temperature Range		-40°C to +85°C							
Capacitance Tolerance		+/- 10% at 1kHz, 20°C							
Rated Voltage	VDC	700	850	1000	1200	1500	2000	2500	3000
	SVDC	1000	1200	1400	1600	2000	2400	3000	3500
	VAC	380	450	480	500	575	630	700	750
Dissipation Factor (max) at 20°C.		Freq (kHz)			C<1.5µF			C>1.5µF	
		1			.05%			.07%	
Insulation Resistance @20°C(<70% RH) for 1 minute at 100VDC		≥30,000MΩ x µF Not to exceed 30,000MΩ							
Dielectric Strength		200% of rated VDC for 10 seconds at 20°C between leads 3kV at 60 Hz for 60 seconds between leads and case.							
Damp Heat Test		56 days at +40°C+/-2°C with 93%+/-2% relative humidity.							
		Capacitance change			≤2% change from initial value				
		Dissipation Factor			≤0.001 at 1kHz and 25°C				
		Insulation Resistance			≥50% of minimum specification				
Self inductance		<1nH/mm of body length and lead wire length.							
Capacitance drift		<1.0% up to 40°C after 2 years							
Temperature Coefficient		-200ppm/°C +/- 100ppm/°C							
Life Expectancy		≥30,000 hours @VAC ≥100,000 hours @WVDC at 70°C							
Failure rate		300/billion component hours.							
Dielectric		Polypropylene							
Electrodes		Vacuum deposited metal layers							
Construction		Extended metallized carrier film, internal series connections.							
Leads		Tinned copper wire.							
Coating		Flame retardant polyester tape wrap (UL 510) with epoxy end fills (UL 94V-0)							

PPS

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PHYSICAL DIMENSIONS

μF \ VDC (VAC)	700 (380)	850 (450)	1000 (480)	1200 (500)	1500 (575)	2000 (630)	2500 (700)	3000 (750)
0.0068								12x29
0.01							11.5x29	11.5x34 14x29
0.015							13x29	14x34 16x29
0.022						12x29	15x29	15.5x34
0.033					11.5x29	13.5x29	13.5x34	18x34
0.047				11x29	13x29	13x34 15.5x29	15.5x34	21x34
0.068			11.5x29	12.5x29	12.5x34 14.5x29	15x34 17.5x29	18x34	20x46 25x34
0.1		11.5x29	13x29	12.5x34 14.5x29	14.5x34 17.5x29	17.5x34	17.5x46 22x34	23.5x46
0.15	11.5x29	12x34 13x29	13x34 15x29	14.5x34 17x29	17.5x34	17.5x46 21.5x34	21.5x46 26x34	28.5x46
0.22	13x29	13.5x34 15x29	15x34 17x29	17x34	17x46 20.5x34	21x46 25.5x34	25x46	27.5x59 29x55 34x46
0.33	13x34 15x29	16x34 17.5x29	17.5x34	17x46 20.5x34	20.5x46 24.5x34	25x46	25x59 26x55 30x46	32.5x59 34x55
0.47	15x34 17.5x29	18.5x34	17.5x46 21x34	20x46 23.5x34	24x46	29x46	29.5x59 30.5x55 35.5x46	39x59 41x55
0.56								42x59
0.68	17.5x34	18x46 21.5x34	20.5x46 24.5x34	23x46	28x46	28.5x59 30x55 34.5x46	36.5x55 35x59	
0.82							38.5x59 40x55	
1	17.5x46 21x34	21.5x46 26x34	24.5x46	27.5x46	28x59 29x55 33.5x46	33.5x59 35.5x55	42x59	
1.2					31.5x59 30x59			
1.3						38x59 40.5x55		
1.5	21x46 25x34	25.5x46	24.5x59 25.5x55 29.5x46	27x59 29x55 33.5x46	33.5x59 35.5x55	40.5x59		
2	24x46	29x46	27.5x59 29x55 33x46	31x59 33x55	38x59 40.5x55			
2.2	25x46	25x59 26.5x55 30x46	28.5x59 30.5x55	32.5x59 34.5x55	40x59 41.5x55			

Convert to inches, divide by 25.4

DxL (mm)



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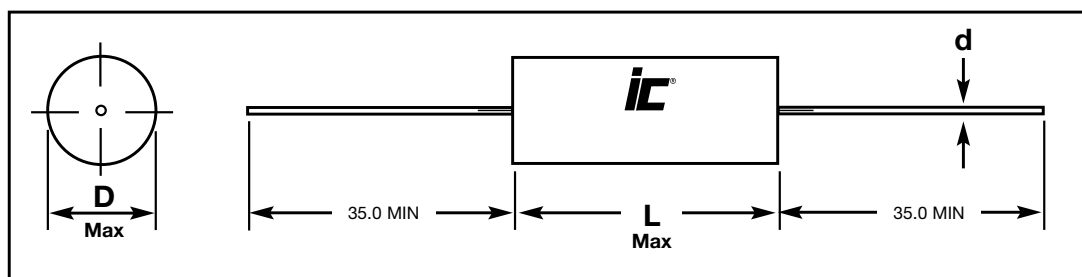
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PHYSICAL DIMENSIONS

μF VDC (VAC)	700 (380)	850 (450)	1000 (480)	1200 (500)	1500 (575)	2000 (630)	2500 (700)	3000 (750)
2.5	26.5x46	26.5x59 28x55	31x59 33x55	34.5x59 36.5x55				
3	29x46	29x59 30.5x55 34.5x46	33x59 35.5x55	37.5x59 40x55				
3.3	25x59 26.5x55 30x46	30x59 32x55	34.5x59 36.5x55	39x59 41.5x55				
4	27x59 28.5x55 32.5x46	33x59 35x55	38x59 40x55					
4.7	29x59 31x55	35.5x59 37x55	40.5x59					
5	30x59 32x55	36.5x59 38x55						
5.6		40.5x55						
6.8	34.5x59 37x55	41.5x59						
8.2	38x59 40.5x55							
10	41.5x59							

Convert to inches, divide by 25.4

DxL (mm)



L	29	34	34	46	46	55	59
D	≤17.5	≤18	>18	≤25	≤25	>41	>42
d	0.8	0.8	1.0	1.0	1.2	1.2	1.2



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STANDARD PART LISTING

Capacitance (μ F)	WVDC	IC [®] PART NUMBER	dv/dt (V/ μ s)	Maximum RMS Current @100 kHz, +70°C in Amps	Typical ESR @100 kHz, +25°C in m Ω	Dimensions DxL (mm)
0.0068	3000	682PPS302KG	1500	1	75	12x29
0.01	2500	103PPS252KG	1050	1.5	58	11.5x29
0.01	3000	103PPS302K	1200	1.5	68	11.5x34
0.01	3000	103PPS302KG	1500	1.5	56	14x29
0.015	2500	153PPS252KG	1050	2	42	13x29
0.015	3000	153PPS302K	1200	2	43	14x34
0.015	3000	153PPS302KG	1500	2.5	39	16x29
0.022	2000	223PPS202KG	810	2.5	33	12x29
0.022	2500	223PPS252KG	1050	2.5	30.5	15x29
0.022	3000	223PPS302K	1200	3	31.5	15.5x34
0.033	1500	333PPS152KG	610	3	26	11.5x29
0.033	2000	333PPS202K	810	4	24.5	13.5x29
0.033	2500	333PPS252K	870	3	26	13.5x34
0.033	2500	333PPS252KG	1050	3	22.5	17.5x29
0.033	3000	333PPS302KG	1200	4	22	18x34
0.047	1200	473PPS122KG	480	2.5	20.5	11x29
0.047	1500	473PPS152KG	610	3	19.5	13x29
0.047	2000	473PPS202K	650	3	20.5	13x34
0.047	2000	473PPS202KG	810	3.5	18.5	15.5x29
0.047	2500	473PPS252K	870	4	19.1	15.5x34
0.047	3000	473PPS302K	1200	5	16	21x34
0.068	1000	683PPS102KG	425	3	16.7	11.5x29
0.068	1200	683PPS122KG	480	3	15.8	12.5x29
0.068	1500	683PPS152KG	610	3.5	14.5	14.5x29
0.068	1500	683PPS152KJ	490	3.5	16.1	12.5x34
0.068	2000	683PPS202K	650	4	15	15x34
0.068	2000	683PPS202KG	810	4.5	13.8	17.5x29
0.068	2500	683PPS252K	870	5	14.5	18x34
0.068	3000	683PPS302K	1200	7	12	25x34
0.068	3000	683PPS302KD20	750	6	15	20x46
0.1	850	104PPS850KG	375	3.5	12.9	11.5x29
0.1	1000	104PPS102KG	425	3.5	12.4	13x29
0.1	1200	104PPS122KG	480	4.5	12	14.5x29
0.1	1200	104PPS122KJ	390	4	13.5	12.5x34
0.1	1500	104PPS152K	490	4.5	12	14.5x34
0.1	1500	104PPS152KG	610	5	10.9	17.5x29
0.1	2000	104PPS202K	650	5.5	11.6	17.5x34
0.1	2500	104PPS252K	870	7	11	22x34
0.1	2500	104PPS252KD17	550	6	14.2	17.5x46
0.1	3000	104PPS302K	750	7.5	11	23.5x46
0.15	700	154PPS700KG	235	3.5	11	11.5x29
0.15	850	154PPS850K	300	4.5	10.8	12x34
0.15	850	154PPS850KG	375	4.5	9.8	13x29
0.15	1000	154PPS102KG	425	5	9.3	15x29
0.15	1000	154PPS102KJ	340	4.5	10.3	13x34
0.15	1200	154PPS122K	390	5	9.8	14.5x34
0.15	1200	154PPS122KG	485	5.5	8.8	17x29
0.15	1500	154PPS152K	490	6	8.7	17.5x34
0.15	2000	154PPS202K	650	7.5	8.2	21.5x34
0.15	2000	154PPS202KD17	410	6.5	10	17.5x46
0.15	2500	154PPS252K	870	8.5	7.6	26x34
0.15	2500	154PPS252KD21	550	7.5	9.3	21.5x46
0.15	3000	154PPS302K	750	10	8.0	28.5x46
0.22	700	224PPS700KG	235	4.5	8.7	13x29

Capacitance (μ F)	WVDC	IC [®] PART NUMBER	dv/dt (V/ μ s)	Maximum RMS Current @100 kHz, +70°C in Amps	Typical ESR @100 kHz, +25°C in m Ω	Dimensions DxL (mm)
0.22	850	224PPS850K	300	5.5	8.4	13.5x34
0.22	850	224PPS850KG	375	5.5	7.7	15x29
0.22	1000	224PPS102K	340	6	7.7	15x34
0.22	1000	224PPS102KG	425	6.5	7	17x29
0.22	1200	224PPS122K	390	6	7.1	17x34
0.22	1500	224PPS152K	490	8	6.5	20.5x34
0.22	1500	224PPS152KD17	320	7.5	8.5	17x46
0.22	2000	224PPS202K	650	9.5	5.7	25.5x34
0.22	2000	224PPS202KD21	410	9	7.2	21x46
0.22	2500	224PPS252K	550	10	6.8	25x46
0.22	3000	224PPS302K	750	13	6	34x46
0.22	3000	224PPS302KD29	500	12	6.8	29x55
0.22	3000	224PPS302KS	370	11	7.7	27.5x59
0.33	700	334PPS700KG	235	5.5	6.7	15x29
0.33	700	334PPS700KJ	185	5.5	7.4	13x34
0.33	850	334PPS850K	300	7	6.6	16x34
0.33	850	334PPS850KG	375	7	5.9	17.5x29
0.33	1000	334PPS102K	340	7.5	5.8	17.5x34
0.33	1200	334PPS122K	390	8.5	5.3	20.5x34
0.33	1200	334PPS122KD17	255	8	6.7	17x46
0.33	1500	334PPS152K	490	10	4.8	24.5x34
0.33	1500	334PPS152KD20	320	9	6.4	20.5x46
0.33	2000	334PPS202K	410	11.5	5.5	25x46
0.33	2500	334PPS252K	550	13	5.2	30x46
0.33	2500	334PPS252KD26	375	12	6.3	26x55
0.33	2500	334PPS252KS	280	11	7.3	25x59
0.33	3000	334PPS302K	500	14	5.5	34x55
0.33	3000	334PPS302KS	370	14	6.2	32.5x59
0.47	700	474PPS700KG	235	7	5.3	17.5x29
0.47	700	474PPS700K	185	6.5	5.9	15x34
0.47	850	474PPS850K	300	9	5.4	18.5x34
0.47	1000	474PPS102K	340	9.5	4.6	21x34
0.47	1000	474PPS102KD17	225	9	5.8	17.5x46
0.47	1200	474PPS122K	390	10.5	3.7	23.5x34
0.47	1200	474PPS122KD20	255	9.5	5.6	20x46
0.47	1500	474PPS152K	320	11.5	5.1	24x46
0.47	2000	474PPS202K	410	13.5	4.5	29x46
0.47	2500	474PPS252KS	280	13.5	5.8	29.5x59
0.47	2500	474PPS252K	550	14	4.2	35.5x46
0.47	2500	474PPS252KD30	375	14	5.1	30.5x55
0.47	3000	474PPS302KS	370	14	5.5	39x59
0.47	3000	474PPS302K	500	14	4.9	41x55
0.56	3000	564PPS302KS	370	14	5.1	42x59
0.68	700	684PPS700K	185	8	4.9	17.5x34
0.68	850	684PPS850K	300	10	4.3	21.5x34
0.68	850	684PPS850KD18	200	9	5.4	18x46
0.68	1000	684PPS102K	340	10.5	3.9	24.5x34
0.68	1000	684PPS102KD20	225	10.5	4.9	20.5x46
0.68	1200	684PPS122K	255	10.5	4.9	23x46
0.68	1500	684PPS152K	320	13.5	4.4	28x46
0.68	2000	684PPS202K	410	14	3.7	34.5x46
0.68	2000	684PPS202KR	300	14	4.7	30x55
0.68	2000	684PPS202KS	225	14	5.4	28.5x59
0.68	2500	684PPS202KD30	300	14	4.7	30x55



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STANDARD PART LISTING

Capacitance (μF)	WVDC	IC PART NUMBER	dv/dt (V/μs)	Maximum RMS Current @100 kHz, +70°C in Amps	Typical ESR @100 kHz, +25°C in mΩ	Dimensions DxL (mm)
0.68	2500	684PPS252K	375	14	4.2	35.5x55
0.68	2500	684PPS252KS	280	14	4.8	35x59
0.82	2500	824PPS252KS	280	14	4.2	38.5x59
0.82	2500	824PPS252K	375	14	3.7	40x55
1	700	105PPS700K	185	10	4.1	21x34
1	700	105PPS700KD17	130	10	4.8	17.5x46
1	850	105PPS850K	300	13	3.3	26x34
1	850	105PPS850KD21	200	10.5	4.3	21.5x46
1	1000	105PPS102K	225	13	3.9	24.5x46
1	1200	105PPS122K	255	13.5	4.1	27.5x46
1	1500	105PPS152K	320	14	3.3	33.5x46
1	1500	105PPS152KD29	235	14	4.5	29x55
1	1500	105PPS152KS	175	13.5	5.1	28x59
1	2000	105PPS202K	300	14	3.8	35.5x55
1	2000	105PPS202KS	225	14	4.3	33.5x59
1	2500	105PPS252KS	280	14	3.9	42x59
1.2	1200	125PPS122K	255	14	3.7	30x46
1.2	1500	125PPS152K	235	14	4	31.5x55
1.2	1500	125PPS152KS	175	14	4.5	30x59
1.3	2000	135PPS202K	300	14	3.3	40.5x55
1.3	2000	135PPS202KS	225	14	3.7	38x59
1.5	700	155PPS700K	185	10.5	3.5	25x34
1.5	700	155PPS700KD21	130	10.5	4.3	21x46
1.5	850	155PPS850K	200	14	3.5	25.5x46
1.5	1000	155PPS102K	225	14	3.1	29.5x46
1.5	1000	155PPS102KD25	165	14	4.1	25.5x55
1.5	1000	155PPS102KS	135	13	4.7	24.5x59
1.5	1200	155PPS122K	255	14	3.2	33.5x46
1.5	1200	155PPS122KD29	190	14	3.7	29x55
1.5	1200	155PPS122KS	150	14	4.2	27x59
1.5	1500	155PPS152K	235	14	3.5	35.5x55
1.5	1500	155PPS152KS	175	14	3.9	33.5x59
1.5	2000	155PPS202KS	225	14	3.5	40.5x59
2	700	205PPS700KN	130	10.5	4.0	24x46
2	850	205PPS850K	200	14	2.9	29x46
2	1000	205PPS102K	225	14	2.6	33x46
2	1000	205PPS102KD29	165	14	3.5	29x55
2	1000	205PPS102KS	135	14	3.9	27.5x59
2	1200	205PPS122K	190	14	3.2	33x55
2	1200	205PPS122KS	150	14	3.6	31x59
2	1500	205PPS152K	235	14	3.0	40.5x55
2	1500	205PPS152KS	175	14	3.3	38x59
2.2	700	225PPS700K	130	10.5	3.9	25x46
2.2	850	225PPS850K	200	14	2.9	30x46
2.2	850	225PPS850KR	125	14	3.8	26.5x55
2.2	850	225PPS850KS	110	14	4.3	25x59
2.2	1000	225PPS102K	165	14	3.4	30.5x55
2.2	1000	225PPS102KS	135	14	3.8	28.5x59
2.2	1200	225PPS122K	190	14	3.0	34.5x55
2.2	1200	225PPS122KS	150	14	3.4	32.5x59

Capacitance (μF)	WVDC	IC PART NUMBER	dv/dt (V/μs)	Maximum RMS Current @100 kHz, +70°C in Amps	Typical ESR @100 kHz, +25°C in mΩ	Dimensions DxL (mm)
2.2	1500	225PPS152KR	235	14	2.9	41.5x55
2.2	1500	225PPS152KS	175	14	3.2	40x59
2.5	700	255PPS700K	130	14	3.5	26.5x46
2.5	850	255PPS850K	200	14	2.7	32x46
2.5	850	255PPS850KD28	125	14	3.6	28x55
2.5	850	255PPS850KS	110	14	4.1	26.5x59
2.5	1000	255PPS102K	165	14	3.1	33x55
2.5	1000	255PPS102KS	135	14	3.5	31x59
2.5	1200	255PPS122K	190	14	2.7	36.5x55
2.5	1200	255PPS122KS	150	14	3.0	34.5x59
3	700	305PPS700KN	130	14	3.3	29x46
3	850	305PPS850K	200	14	2.4	34.5x46
3	850	305PPS850KD30	125	14	3.2	30.5x55
3	850	305PPS850KS	110	14	3.6	29x59
3	1000	305PPS102KR	165	14	2.8	35.5x55
3	1000	305PPS102KS	135	14	3.1	33x59
3	1200	305PPS122K	190	14	2.4	40x55
3	1200	305PPS122KS	150	14	2.7	37.5x59
3.3	700	335PPS700KS	90	13.5	4.4	25x59
3.3	700	335PPS700K	130	14	3.1	30x46
3.3	700	335PPS700KD26	110	14	3.9	26.5x55
3.3	850	335PPS850KS	110	14	3.5	30x59
3.3	850	335PPS850K	125	14	3.1	32x55
3.3	1000	335PPS102KS	135	14	3.0	34.5x59
3.3	1000	335PPS102K	165	14	2.7	36.5x55
3.3	1200	335PPS122KS	150	14	2.6	39x59
3.3	1200	335PPS122K	190	14	2.3	41.5x55
4	700	405PPS700K	130	14	2.8	32.5x46
4	700	405PPS700KD28	110	14	3.6	28.5x55
4	700	405PPS700KS	90	14	4.1	27x59
4	850	405PPS850K	125	14	2.8	35x55
4	850	405PPS850KS	110	14	3.1	33x59
4	1000	405PPS102K	165	14	2.4	40x55
4	1000	405PPS102KS	135	14	2.7	38x59
4.7	700	475PPS700K	110	14	3.3	31x55
4.7	700	475PPS700KS	90	14	3.7	29x59
4.7	850	475PPS850K	125	14	2.5	37x55
4.7	850	475PPS850KS	110	14	2.8	35.5x59
4.7	1000	475PPS102KS	135	14	2.4	40.5x59
5	700	505PPS700K	110	14	3.2	32x55
5	700	505PPS700KS	90	14	3.6	30x59
5	850	505PPS850K	125	14	2.4	38x55
5	850	505PPS850KS	110	14	2.7	36.5x59
6.8	700	685PPS700K	110	14	2.7	37x55
6.8	700	685PPS700KS	90	14	3.1	34.5x59
6.8	850	685PPS850LS	110	14	2.3	41.5x59
8.2	700	825PPS700K	110	14	2.4	40.5x55
8.2	700	825PPS700KS	90	14	2.7	38x59
10	700	106PPS700KS	90	14	2.5	41.5x59



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