

# MPW

## +105°C Metallized Polypropylene Axial Leaded Wrap and Fill Capacitors



- Good AC/ pulse applications
- Polystyrene alternative
- Self healing

- Capacitance range: 0.001  $\mu\text{F}$  to 10.0  $\mu\text{F}$
- Voltage range: 160 WVDC to 630 WVDC

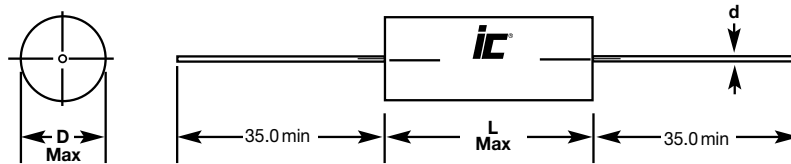
<b>Capacitance Tolerance</b>		$\pm 10\%$ at 1kHz, 25°C			
<b>Operating Temperature Range</b>		-55°C to 105°C			
<b>Voltage Range</b>	<b>WVDC</b>	<b>160</b>	<b>250</b>	<b>400</b>	<b>630</b>
	<b>VAC</b>	90	200	220	250
<b>Dissipation Factor (%)</b>	<b>kHz</b>	<b>C<math>\leq</math>0.1<math>\mu\text{F}</math></b>	<b>0.1<math>\mu\text{F}</math>&lt;C<math>\leq</math>1<math>\mu\text{F}</math></b>	<b>C&gt;1<math>\mu\text{F}</math></b>	
	1	.06	.06	.06	
	10	.1	.2	-	
	100	.3	-	-	
<b>Insulation Resistance</b>	<b>Capacitance</b>	<b>Insulation Resistance</b>			
	$\leq 0.33 \mu\text{F}$	100,000 M $\Omega$			
	$> 0.33 \mu\text{F}$	30,000 M $\Omega$ x $\mu\text{F}$			
<b>Load Life</b>	<b>2,000 hours, +85°C with 125% rated DC voltage</b>				
	Capacitance Change	$\leq 3\%$ maximum			
	Dissipation Factor Change	< 125% maximum specification			
	Insulation Resistance	$\geq 50\%$ of minimum initial limits			
<b>Humidity Test</b>	<b>250 hours, 95% RH, 25°C and no applied voltage</b>				
	Capacitance Change	5% of initial readings @ +25°C, 1kHz			
	Dissipation Factor Change	< 200% of maximum specification			
	Insulation Resistance	$\geq 3000\text{M}\Omega \times \mu\text{F}$ (need not exceed 500M $\Omega$ )			
<b>Self-inductance</b>	$\leq 1$ nH/mm along the capacitor body and leads				
<b>Capacitance Drift Factor</b>	(after 2 years) $\leq 0.5\%$ up to 40°C				
<b>Capacitance Temperature Coefficient</b>	-200 ppm/°C, $\pm 100$ ppm/°C				
<b>Type</b>	Extended metallized film				
<b>Dielectric</b>	Polypropylene film				
<b>Electrodes</b>	Vacuum deposited aluminum layers				
<b>Leads</b>	Tinned copper wire				
<b>Coating</b>	Flame retardant epoxy sealed resin (UL94V-0) with polyester tape wrap (UL510)				

## PHYSICAL DIMENSIONS

WVDC (VAC) μF	160 (90)	250 (200)	400 (220)	630 (250)
0.001				5.5x11.5
0.0015			5.5x11.5	6x14.5
0.0022			5.5x11.5	6x14.5
0.0033			5.5x11.5	6x14.5
0.0047			5.5x11.5	6x14.5
0.0068			5.5x11.5	6x14.5
0.0082			5.5x11.5	6x14.5
0.01			6x14.5	6.5x14.5
0.015		5.5x14.5	6.5x14.5	7x14.5
0.022	5.5x11.5	6x14.5	7x14.5	8.5x14.5
0.033	5.5x11.5	6.5x14.5	7x14.5	8.5x20.5
0.047	5.5x11.5	6.5x14.5	8.5x14.5	9x20.5
0.068	6.5x14.5	7x14.5	8.5x20.5	9x29
0.1	6.5x14.5	8.5x14.5	8.5x20.5	10.5x29
0.15	7x14.5	8x20.5	9.5x29	12x29
0.22	8x14.5	9.5x20.5	10.5x29	12.5x34
0.33	8.5x20.5	10x29	12.5x29	15.5x34
0.47	9.5x20.5	11x29	14x29	18x34
0.68	10x29	12.5x29	15x34	22x34
1	11x29	13x34	17.5x34	
1.5	13x29	16x34	20.5x34	
2.2	13.5x34	19x34	24x46	
3.3	16x34	17x47	24x47	
4.7	18x34	22.5x47	28.5x47	
6.8	18.5x46.5			
10	22.5x46.5			

Convert to inches, divide by 25.4

DxL(mm)



Lead Diameter	
D	d
< 8.0	0.6
8 ≤ D ≤ 22	0.8
> 22	1.0

## STANDARD PART LISTING

Capacitance (µF)	WVDC	IC PART NUMBER	dv/dt (v/µs)	Dimension DxL (mm)
0.001	630	102MPW630K	22	5.5x11.5
0.0015	400	152MPW400K	15	5.5x11.5
0.0015	630	152MPW630K	22	6x14.5
0.0022	400	222MPW400K	15	5.5x11.5
0.0022	630	222MPW630K	22	6x14.5
0.0033	400	332MPW400K	15	5.5x11.5
0.0033	630	332MPW630K	22	6x14.5
0.0047	400	472MPW400K	15	5.5x11.5
0.0047	630	472MPW630K	22	6x14.5
0.0068	400	682MPW400K	15	5.5x11.5
0.0068	630	682MPW630K	22	6x14.5
0.0082	400	822MPW400K	15	5.5x11.5
0.0082	630	822MPW630K	22	6x14.5
0.01	400	103MPW400K	15	6x14.5
0.01	630	103MPW630K	22	6.5x14.5
0.015	250	153MPW250K	12	5.5x14.5
0.015	400	153MPW400K	15	6.5x14.5
0.015	630	153MPW630K	22	7.5x14.5
0.022	160	223MPW160K	22	5.5x11.5
0.022	250	223MPW250K	12	6x14.5
0.022	400	223MPW400K	15	7x14.5
0.022	630	223MPW630K	22	8.5x14.5
0.033	160	333MPW160K	22	5.5x11.5
0.033	250	333MPW250K	12	6.5x14.5
0.033	400	333MPW400K	15	7.5x14.5
0.033	630	333MPW630K	16	8.5x20.5
0.047	160	473MPW160K	22	5.5x11.5
0.047	250	473MPW250K	12	6.5x14.5
0.047	400	473MPW400K	15	8.5x14.5
0.047	630	473MPW630K	16	9x20.5
0.068	160	683MPW160K	22	6.5x14.5
0.068	250	683MPW250K	12	7.5x14.5
0.068	400	683MPW400K	12	8.5x20.5
0.068	630	683MPW630K	12	9x29
0.1	160	104MPW160K	22	6.5x14.5
0.1	250	104MPW250K	12	8.5x14.5
0.1	400	104MPW400K	12	8.5x20.5
0.1	630	104MPW630K	12	10.5x29

Capacitance (µF)	WVDC	IC PART NUMBER	dv/dt (v/µs)	Dimension DxL (mm)
0.15	160	154MPW160K	22	7.5x14.5
0.15	250	154MPW250K	8	8x20.5
0.15	400	154MPW400K	8	9.5x29
0.15	630	154MPW630K	12	12x29
0.22	160	224MPW160K	22	8x14.5
0.22	250	224MPW250K	8	9.5x20.5
0.22	400	224MPW400K	8	10.5x29
0.22	630	224MPW630K	7	12.5x34
0.33	160	334MPW160K	18	8.5x20.5
0.33	250	334MPW250K	5	10x29
0.33	400	334MPW400K	8	12.5x29
0.33	630	334MPW630K	7	15.5x34
0.47	160	474MPW160K	18	9.5x20.5
0.47	250	474MPW250K	5	11x29
0.47	400	474MPW400K	8	14x29
0.47	630	474MPW630K	7	18x34
0.68	160	684MPW160K	11	10x29
0.68	250	684MPW250K	5	12.5x29
0.68	400	684MPW400K	5	15x34
0.68	630	684MPW630K	7	22x34
1	160	105MPW160K	11	11x29
1	250	105MPW250K	3	13x34
1	400	105MPW400K	5	17.5x34
1.5	160	155MPW160K	11	13x29
1.5	250	155MPW250K	8	16x34
1.5	400	155MPW400K	5	20.5x34
2.2	160	225MPW160K	8	13.5x34
2.2	250	225MPW250K	3	19x34
2.2	400	225MPW400K	3	24x46
3.3	160	335MPW160K	8	16x34
3.3	250	335MPW250K	2	17x47
3.3	400	335MPW400K	3	24x47
4.7	160	475MPW160K	8	18x34
4.7	250	475MPW250K	2	22.5x47
4.7	400	475MPW400K	3	28.5x47
6.8	160	685MPW160K	8	18.5x46.5
10	160	106MPW160K	8	22.5x46.5

NOTE: WVDC: MAXIMUM RATED DC WORKING VOLTAGE AT +85°C.