

# MMR

## Small Size Epoxy Dipped Radial Lead Metallized Polyester Film Capacitors



- Bypass
- Coupling
- Filtering
- Blocking

<b>Operating Temperature Range</b>		<b>-40°C to +105°C</b>			
<b>Capacitance Tolerance</b>		<b>±10% at 1kHz, 20°C</b>			
<b>Rated Voltage</b>	<b>VDC</b>	<b>100</b>	<b>250</b>	<b>400</b>	<b>630</b>
	<b>VAC</b>	63	150	200	220
For T> +85°C the applied voltage must be decreased by 1.25% per °C					
<b>Dissipation Factor (max) at 20°C</b>	<b>Freq. (kHz)</b>	<b>Dissipation factor</b>			
	1	1.0%			
	10	1.5%			
<b>Insulation Resistance @20°C(&lt;70% RH) for 1 minute at 100VDC</b>	<b>Capacitance</b>	<b>Insulation Resistance</b>			
	≤0.33 μF	9,000 MΩ			
	>0.33 μF	3,000 MΩ x μF			
<b>Load Life Test</b>	<b>2,000 hours at 125% of rated VDC and at 85°C</b>				
	<b>Capacitance Change</b>	≤5% change from initial value.			
	<b>Dissipation Factor</b>	≤0.005 at 1kHz and 25°C			
	<b>Insulation Resistance</b>	≥50% of minimum specification			
<b>Damp Heat Test</b>	<b>1000 hours at +40°C±2°C with 93% ±2% relative humidity</b>				
	<b>Capacitance Change</b>	≤5% change from initial value.			
	<b>Dissipation Factor</b>	≤0.005 at 1kHz and 25°C			
	<b>Insulation Resistance</b>	≥50% of minimum specification			
<b>Self-inductance</b>	≤1 nH/mm along the capacitor pitch and lead wire length.				
<b>Dielectric Strength</b>	160% of rated WVDC for 2 seconds at 20°C between the leads.				
<b>Capacitance Drift Factor</b>	≤1.0% up to 40°C after 2 years				
<b>Temperature Coefficient</b>	+400 ppm/°C, ± 200ppm/°C				
<b>Dielectric</b>	Polyester				
<b>Electrodes</b>	Vacuum deposited metal layers				
<b>Construction</b>	Extended metallized carrier film				
<b>Leads</b>	Tinned copper wire				
<b>Coating</b>	Flame retardant epoxy sealed resin (UL 94V-O)				

## STANDARD PART LISTING

Capacitance (μF)	WVDC	IC <sup>®</sup> PART NUMBER	dv/dt (v/μs)
0.01	250	103MMR250K	80
0.01	400	103MMR400K	190
0.01	630	103MMR630K	200
0.015	250	153MMR250K	80
0.015	400	153MMR400K	190
0.015	630	153MMR630K	200
0.022	250	223MMR250K	80
0.022	400	223MMR400K	190
0.022	630	223MMR630K	200
0.033	250	333MMR250K	80
0.033	400	333MMR400K	190
0.033	630	333MMR630K	200
0.047	250	473MMR250K	80
0.047	400	473MMR400K	160
0.047	630	473MMR630K	200
0.068	250	683MMR250K	80
0.068	400	683MMR400K	160
0.068	630	683MMR630K	90
0.100	250	104MMR250K	80

Capacitance (μF)	WVDC	IC <sup>®</sup> PART NUMBER	dv/dt (v/μs)
0.10	400	104MMR400K	160
0.10	630	104MMR630K	90
0.15	250	154MMR250K	80
0.15	400	154MMR400K	65
0.15	630	154MMR630K	90
0.22	250	224MMR250K	110
0.22	400	224MMR400K	65
0.22	630	224MMR630K	90
0.33	250	334MMR250K	110
0.33	400	334MMR400K	65
0.33	630	334MMR630K	35
0.47	250	474MMR250K	45
0.47	400	474MMR400K	65
0.47	630	474MMR630K	35
0.68	250	684MMR250K	45
0.68	400	684MMR400K	30
0.68	630	684MMR630K	35
1.0	100	105MMR100K	30
1.0	250	105MMR250K	45

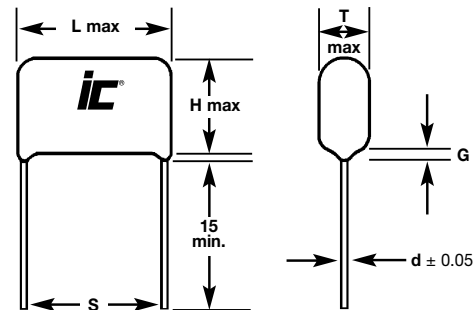
Capacitance (μF)	WVDC	IC <sup>®</sup> PART NUMBER	dv/dt (v/μs)
1.0	400	105MMR400K	30
1.0	630	105MMR630K	30
1.5	100	155MMR100K	20
1.5	250	155MMR250K	45
1.5	400	155MMR400K	25
1.5	630	155MMR630K	30
2.2	100	225MMR100K	20
2.2	250	225MMR250K	20
2.2	400	225MMR400K	25
2.2	630	225MMR630K	30
3.3	100	335MMR100K	20
3.3	250	335MMR250K	20
4.7	100	475MMR100K	10
4.7	250	475MMR250K	20
6.8	100	685MMR100K	10
6.8	250	685MMR250K	15
10.0	100	106MMR100K	10
10.0	250	106MMR250K	15

### PHYSICAL DIMENSIONS

WVDC (VAC) μF	100 (63)	250 (150)	400 (200)	630 (220)
0.010	→	10.5x7.5x4.5	10.5x7.5x4.5	12x7.5x4.5
0.015	→	10.5x7.5x4.5	10.5x7.5x4.5	12x8.5x5
0.022	→	10.5x7.5x4.5	10.5x8x5	12x10.5x5.5
0.033	→	10.5x7.5x4.5	10.5x9x6	12x12x6
0.047	→	10.5x7.5x4.5	12x8.5x5	12x13.5x6.5
0.068	→	10.5x7.5x4.5	12x10.5x5.5	18.5x11x6
0.10	→	10.5x8.5x6	12x12x6.5	18.5x14x6.5
0.15	→	10.5x11x6	18.5x12.5x5	18.5x15.5x7.5
0.22	→	12x10.5x5.5	18.5x13x6	18.5x16.5x9
0.33	→	12x12x6.5	18.5x15x7	26x17x8
0.47	→	18.5x12.5x5.5	18.5x17x8	26x18.5x9.5
0.68	→	18.5x13.5x6	26x16.5x7	26x21x11.5
1.0	12x14x7	18.5x15x7.5	26x18x8.5	31x22x12.5
1.5	18.5x13.5x6	18.5x17x9	31x19x9.5	31x25x15.5
2.2	18.5x15x7	26x16.5x8.5	31x22x11	31x29x19.5
3.3	18.5x16.5x8.5	26x18x10.5		
4.7	26x17x7.5	26x21.5x12		
6.8	26x18.5x9	31x22.5x13		
10.0	26x21x11.5	31x26x16		

Convert to inches, divide by 25.4

LxHxT(mm)



WVDC	Capacitance Range (μF)	Lead Dia. d	Meniscus G Max.
100	C ≤ 6.8 C > 6.8	0.8 0.8	1.0 1.5
250	C ≤ 0.47 0.68 ≤ C ≤ 2.2 C > 2.2	0.6 0.8 0.8	1.0 1.0 1.5
400	C ≤ 0.22 0.33 ≤ C ≤ 1.5 C > 1.5	0.6 0.8 0.8	1.0 1.0 1.5
630	C ≤ 0.1 0.15 ≤ C ≤ 0.47 C > 0.47	0.6 0.8 0.8	1.0 1.0 1.5

mm

### Lead Spacing (S ± 1.0mm)

L	10.5	12	18.5	26	31
S	7.5	10.0	15.0	22.5	27.5