

# MWR

## Metallized Polyester Film Capacitors



- Bypass
- Coupling

- Filtering
- Blocking

<b>Operating Temperature Range</b>		-55°C to +125°C							
<b>Capacitance Tolerance</b>		+/- 10% at 1kHz, 20°C							
<b>Rated Voltage</b>	VDC	50	63	100	250	400	630	1000	1500
	VAC	30	40	63	160	200	220	250	300
For T>85°C the rated voltage must be decreased by 1.25% per °C									
<b>Dissipation Factor (max) at 20°C</b>	Freq (kHz)	C≤0.1μF			0.1<C≤1.0μF			C>1μF	
	1	0.8%			0.8%			1.0%	
	10	1.5%			1.5%			-	
	100	3.0%			-			-	
<b>Insulation Resistance @20°C(&lt;70% RH) for 1 minute at 100VDC</b>	WVDC	Capacitance			I.R.				
	≤100	≤0.33μF			15000MΩ				
	>100	≤0.33μF			30000MΩ				
	≤100	>0.33μF			5000MΩ x μF				
<b>Load Life Test</b>	2000 hours at 125% of rated voltage and at 85°C								
	Capacitance change	≤5% change from initial value.							
	Dissipation Factor	≤0.005 at 1kHz and 25°C for C ≤ 1μF							
	Insulation Resistance	≤0.003 at 10kHz and 25°C for C >1μF							
<b>Damp Heat Test</b>	56 days at +40°C+/-2°C with 93%+/-2% relative humidity								
	Capacitance change	≤5% change from initial value.							
	Dissipation Factor	≤0.005 at 1kHz and 25°C							
	Insulation Resistance	≥50% of minimum specification							
<b>Self inductance</b>	<1nH/mm of body length and lead wire length.								
<b>Capacitance drift</b>	<1.0% up to 40°C after 2 years								
<b>Temperature Coefficient</b>	+400ppm/°C +/- 200ppm/°C								
<b>Dielectric</b>	Polyester								
<b>Electrodes</b>	Vacuum deposited metal layers								
<b>Construction</b>	Extended metallized carrier film, internal series connections (WVDC>1000V).								
<b>Leads</b>	Tinned copper wire								
<b>Coating</b>	Flame retardant polyester tape wrap (UL510) with epoxy end seals (UL94V-0)								

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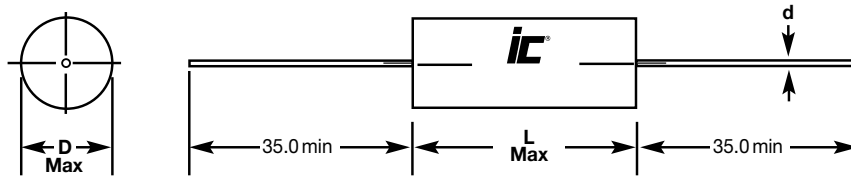
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**PHYSICAL DIMENSIONS**

WVDC (VAC) μF	50 (30)	63 (40)	100 (63)	250 (160)	400 (200)	630 (220)	1000 (250)	1500 (300)
0.001						5.5x11.5		5.5x14.5
0.0015						5.5x11.5		5.5x14.5
0.0022						5.5x11.5		6x14.5
0.0033						5.5x11.5		6.5x14.5
0.0039						5.5x11.5		
0.0047						5.5x11.5		7x14.5
0.0068						5.5x11.5		8x14.5
0.01					5x11.5	6x14	7x14.5	8.5x14.5
0.015					5.5x14.5	6.5x14.5	8x14.5	8.5x20.5
0.022				5.5x11.5	5.5x14	8x14	9.5x20.5	9.5x20.5
0.033				6x11.5	6x14	7.5x20.5	10.5x20.5	11x20.5
0.039				6x11.5	7x15.5	8x20.5		
0.047				5.5x14	7x14	7.5x19	11x29	11x29
0.068			5.5x11.5	6.5x14.5	7.5x20.5	9x20.5	12.5x29	12.5x29
0.1			6x11.5	6x14	7.5x19	9x27	12x29	13x34
0.15		5.5x14	6x14	7x14	8.5x19	10.5x29	13x34	15x34
0.22	6x11.5	5.5x14	6.5x14	7x19	8.5x27	12.5x27	14.5x34	17.5x34
0.33	6x11.5		7.5x14	8x19	10x27	13.5x34	17x34	20.5x34
0.47	6x11.5		7x15.5	9.5x19	12.5x27	15.5x34	19.5x34	24x34
0.68	6x11.5	6.5x19	8x19	9.5x27	12.5x34	18.5x34		24.5x46.5
1	7.5x11.5	8x20.5	9.5x19	10.5x27	14.5x34	22x34		28.5x46.5
1.5	8x14.5	9.5x20.5	9x27	12.5x29	17.5x34	26.5x34		34x46.5
2.2	9x14.5	10.5x29	12x29	13.5x34	20.5x34			
3.3	9.5x20.5	11x29	13x29	15.5x34	22.5x47			
4.7	10.5x20.5	12.5x29	12.5x34	19.5x34				
6.8	11.5x20.5		17x34	23x34				
10	13.5x20.5	14x34	18x34	24.5x46.5				
15			22x34					
22			22x46					

Convert to inches, divide by 25.4

**DxL(mm)**



Lead Diameter	
D	d
< 9.0	0.6
9 ≤ D < 20	0.8
≥ 20	1.0

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**STANDARD PART LISTING**

Capacitance (µF)	WVDC	IC PART NUMBER	dv/dt (v/µ sec.)	Dimension D X L (mm)
0.001	630	102MWR630K	60	5.5x11.5
0.001	1500	102MWR152KB	90	5.5x14.5
0.0015	630	152MWR630K	60	5.5x11.5
0.0015	1500	152MWR152KB	90	5.5x14.5
0.0022	630	222MWR630K	60	5.5x11.5
0.0022	1500	222MWR152KB	90	6x14.5
0.0033	630	332MWR630K	60	5.5x11.5
0.0033	1500	332MWR152KB	90	6.5x14.5
0.0039	630	392MWR630K	60	5.5x11.5
0.0047	630	472MWR630K	60	5.5x11.5
0.0047	1500	472MWR152KB	90	7x14.5
0.0068	630	682MWR630K	60	5.5x11.5
0.0068	1500	682MWR152KB	90	8x14.5
0.01	400	103MWR400K	14	5x11.5
0.01	630	103MWR630K	20	6x14
0.01	1000	103MWR102K	80	7x14.5
0.01	1500	103MWR152KB	90	8.5x14.5
0.015	400	153MWR400K	14	5.5x14.5
0.015	630	153MWR630K	20	6.5x14.5
0.015	1000	153MWR102K	80	8x14.5
0.015	1500	153MWR152KD	50	8.5x20.5
0.022	250	223MWR250K	10	5.5x11.5
0.022	400	223MWR400K	14	5.5x14
0.022	630	223MWR630K	20	8x14
0.022	1000	223MWR102K	40	9.5x20.5
0.022	1500	223MWR152KD	50	9.5x20.5
0.033	250	333MWR250K	10	6x11.5
0.033	400	333MWR400K	14	6x14
0.033	630	333MWR630K	15	7.5x20.5
0.033	1000	333MWR102K	40	10.5x20.5
0.033	1500	333MWR152KD	50	11x20.5
0.039	250	393MWR250K	10	6x11.5
0.039	400	393MWR400K	14	7x15.5
0.039	630	393MWR630K	15	8x20.5
0.047	250	473MWR250K	10	5.5x14
0.047	400	473MWR400K	14	7x14
0.047	630	473MWR630K	15	7.5x19
0.047	1000	473MWR102K	33	11x29
0.047	1500	473MWR152KG	40	11x29
0.068	100	683MWR100K	6	5.5x11.5
0.068	250	683MWR250K	10	6.5x14.5
0.068	400	683MWR400K	10	7.5x20.5

Capacitance (µF)	WVDC	IC PART NUMBER	dv/dt (v/µ sec.)	Dimension D X L (mm)
0.068	630	683MWR630K	15	9x20.5
0.068	1000	683MWR102K	33	12.5x29
0.068	1500	683MWR152KG	40	12.5x29
0.1	100	104MWR100K	6	6x11.5
0.1	250	104MWR250K	10	6x14
0.1	400	104MWR400K	10	7.5x19
0.1	630	104MWR630K	10	9x27
0.1	1000	104MWR102K	33	12x29
0.1	1500	104MWR152KJ	25	13x34
0.15	63	154MWR063K	11	5.5x14
0.15	100	154MWR100K	6	6x14
0.15	250	154MWR250K	10	7x14
0.15	400	154MWR400K	10	8.5x19
0.15	630	154MWR630K	10	10.5x29
0.15	1000	154MWR102K	20	13x34
0.15	1500	154MWR152KJ	25	15x34
0.22	50	224MWR050K	9	6x11.5
0.22	100	224MWR100K	6	6.5x14
0.22	250	224MWR250K	7	7x19
0.22	400	224MWR400K	7	8.5x27
0.22	630	224MWR630K	10	12.5x27
0.22	1000	224MWR102K	20	14.5x34
0.22	1500	224MWR152KJ	25	17.5x34
0.33	50	334MWR050K	9	6x11.5
0.33	100	334MWR100K	6	7.5x14
0.33	250	334MWR250K	7	8x19
0.33	400	334MWR400K	7	10x27
0.33	630	334MWR630K	6	13.5x34
0.33	1000	334MWR102K	20	17x34
0.33	1500	334MWR152KJ	25	20.5x34
0.47	50	474MWR050K	9	6x11.5
0.47	100	474MWR100K	6	7x15.5
0.47	250	474MWR250K	7	9.5x19
0.47	400	474MWR400K	7	12.5x27
0.47	630	474MWR630K	6	15.5x34
0.47	1000	474MWR102K	20	19.5x34
0.47	1500	474MWR152KJ	25	24x34
0.68	50	684MWR050K	9	6x11.5
0.68	63	684MWR063K	7	6.5x19
0.68	100	684MWR100K	3	8x19
0.68	250	684MWR250K	4	9.5x27
0.68	400	684MWR400K	4	12.5x34

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Capacitance (µF)	WVDC	IC <sup>®</sup> PART NUMBER	dv/dt (v/µ sec.)	Dimension D X L (mm)
0.68	630	684MWR630K	6	18.5x34
0.68	1500	684MWR152KN	25	24.5x46.5
1	50	105MWR050K	9	7.5x11.5
1	63	105MWR063K	7	8x20.5
1	100	105MWR100K	3	9.5x19
1	250	105MWR250K	4	10.5x27
1	400	105MWR400K	4	14.5x34
1	630	105MWR630K	6	22x34
1	1500	105MWR152KN	25	28.5x46.5
1.5	50	155MWR050K	9	8x14.5
1.5	63	155MWR063K	7	9.5x20.5
1.5	100	155MWR100K	2	9x27
1.5	250	155MWR250K	4	12.5x29
1.5	400	155MWR400K	4	17.5x34
1.5	630	155MWR630K	6	26.5x34
1.5	1500	155MWR152KN	25	34x46.5
2.2	50	225MWR050K	9	9x14.5
2.2	63	225MWR063K	5	10.5x29
2.2	100	225MWR100K	2	12x29
2.2	250	225MWR250K	3	13.5x34

Capacitance (µF)	WVDC	IC <sup>®</sup> PART NUMBER	dv/dt (v/µ sec.)	Dimension D X L (mm)
2.2	400	225MWR400K	4	20.5x34
3.3	50	335MWR050K	6	9.5x20.5
3.3	63	335MWR063K	5	11x29
3.3	100	335MWR100K	2	13x29
3.3	250	335MWR250K	3	15.5x34
3.3	400	335MWR400K	2	22.5x47
4.7	50	475MWR050K	6	10.5x20.5
4.7	63	475MWR063K	5	12.5x29
4.7	100	475MWR100K	2	12.5x34
4.7	250	475MWR250K	3	19.5x34
6.8	50	685MWR050K	6	11.5x20.5
6.8	100	685MWR100K	2	17x34
6.8	250	685MWR250K	3	23x34
10	50	106MWR050K	6	13.5x20.5
10	63	106MWR063K	4	14x34
10	100	106MWR100K	2	18x34
10	250	106MWR250K	2	24.5x46.5
15	100	156MWR100K	2	22x34
22	100	226MWR100K	2	22x46

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

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