

+125°C Metallized Polycarbonate, Wrap and Fill Axial Lead Capacitors

A-05-17-07



For all general purpose film capacitor applications

FEATURES

- Temperature Stable
- Self Healing
- Capacitance Range .001 μ F to 22 μ F
- Voltage Range 63WVDC to 400WVDC

SPECIFICATIONS

Capacitance Tolerance		±10% at 1kHz, 25°C				
Operating Temperature Range		-55°C to +125°C				
Voltage Range	WVDC	63	100	250	400	
	VAC	40	63	160	200	
Dissipation Factor		0.3% at 1 kHz, 25°C				
Insulation Resistance		Capacitance		Insulation Resistance		
		≤0.33 μF		15,000MΩ to 30,000 MΩ		
		>0.33 μF		5,000 MΩ to10,000 MΩ x μF		
Load Life		1,000 hours, +85°C with 125% rated DC voltage				
		Capacitance Change			≤5% maximum	
		Dissipation Factor Change			<200% maximum specification	
		Insulation Resistance			≥50% of minimum initial limits	
Humidity Test		250 hours, 95% RH, 25°C and no applied voltage				
		Capacitance Change			ΔC<5% of initial readings ⊕ +25°C, 1kHz	
		Dissipation Factor Change			≤ 140% of initial +25°C 1kHz	
		Insulation Resistance			≥ 3000 MΩ xμF (need not exceed 5000MΩ)	
Self-inductance		≤1 nH/mm along the capacitor body and wires				
Capacitance Drift Factor		(after 2 years) ≤1.0% up to 40°C				
Capacitance Temperature Coefficient		+150 ppm/°C, ± 50ppm/°C				

CONSTRUCTION

Type	Extended metallized film
Dielectric	Polycarbonate film
Electrodes	Vacuum deposited aluminum layers
Leads	Tinned copper wire (minimum lead content 5%)
Coating	Flame retardant epoxy end sealed resin (UL94V-O) with polyester tape wrap (UL510)

PERFORMANCE RATINGS/TESTS

RATED WVDC TEMPERATURE DERATING

Operating Temperature	WVDC Rating
+25°C	100%
+85°C	100%
+105°C	80%

RATED AC VOLTAGE (VAC)

The AC working voltage must be derated when used at frequencies other than 60Hz due to dielectric effects.

NOTE: The peak value of the AC voltage super-imposed upon the DC voltage should not exceed the rated DC voltage.

DIELECTRIC STRENGTH

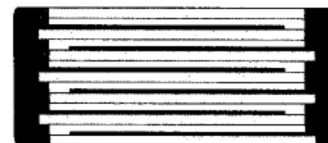
160% Rated DC for 1 minute at +25°C.

INSULATION RESISTANCE (IR)

@+25°C (< 70%RH) for 1 minute

WVDC	Capacitance (μF)	Insulation Resistance
≤ 100	$\leq .33$	15,000M Ω
	$> .33$	5,000M $\Omega \times \mu\text{F}$
> 100	$\leq .33$	3,000M Ω
	$> .33$	10,000M $\Omega \times \mu\text{F}$

Rated WVDC	Test Voltage
100 $\leq$ WVDC <400	100WVDC
<100	50WVDC



Extended metallized film design



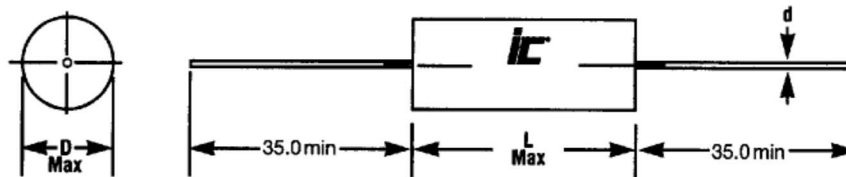
ILLINOIS CAPACITOR, INC. 3757 W. Touhy Ave., Lincolnwood, Illinois 60645 • (847) 675-1760 • Fax (847) 673-2850

PHYSICAL DIMENSIONS

μF / WVDC (VAC)	63 (40)	100 (63)	250 (160)	400 (200)
0.0010				5.5x11.5
0.0015				5.5x11.5
0.0022				5.5x11.5
0.0033				5.5x11.5
0.0047				5.5x11.5
0.0068				5.5x11.5
0.01				6x14.5
0.015				6x14.5
0.022				6x14.5
0.033				6x14.5
0.047			6x14.5	7x14.5
0.068			6x14.5	8x14.5
0.10		6x14.5	7x14.5	8x20.5
0.15		6x14.5	8.5x14.5	9x20.5
0.22		6x14.5	8x20.5	9.5x29
0.33		7x14.5	9x20.5	10.5x29
0.47	7x14.5	7.5x14.5	11x20.5	12x29
0.68		8x20.5	10.5x29	13x34
1.0	7.5x20.5	8.5x20.5	11.5x29	15x34
1.5	8.5x20.5	9x29	13x29	18.5x34
2.2		11.0x29	15x34	21.5x34
3.3	10.5x29	12.5x29	16.5x34	
4.7	12x29	12.5x34	19.5x34	
6.8	12x34	16x34	23x34	
10.0	15x34	18.5x34		
15.0	16.5x34	22x34		
22.0	19x34			

Convert to inches divide by 25.4

DxL(mm)



Lead Diameter	
L	d
≤19	.6
19<L<21.5	.8
≥21.5	.9

MCW+ 125°C Metallized
Polycarbonate
Wrap and Fill Axial
Lead Capacitors**STANDARD PART LISTING**

Capacitance μF	WVDC	ic PART NUMBER	dv/dt (v/ μs)
0.001	400	102MCW400K	42
0.0015	400	152MCW400K	42
0.0022	400	222MCW400K	42
0.0033	400	332MCW400K	42
0.0047	400	472MCW400K	42
0.0068	400	682MCW400K	42
0.01	400	103MCW400K	42
0.015	400	153MCW400K	42
0.022	400	223MCW400K	42
0.033	400	333MCW400K	42
0.047	250	473MCW250K	21
0.047	400	473MCW400K	42
0.068	250	683MCW250K	21
0.068	400	683MCW400K	42
0.10	100	104MCW100K	16
0.10	250	104MCW250K	21
0.10	400	104MCW400K	23
0.15	100	154MCW100K	16
0.15	250	154MCW250K	21
0.15	400	154MCW400K	23
0.22	100	224MCW100K	16
0.22	250	224MCW250K	17
0.22	400	104MCW400K	18
0.33	100	334MCW100K	16
0.33	250	334MCW250K	17
0.33	400	334MCW400K	18
0.47	63	474MCW063K	14
0.47	100	474MCW100K	16
0.47	250	474MCW250K	17

Capacitance μF	WVDC	ic PART NUMBER	dv/dt (v/ μs)
0.47	400	474MCW400K	18
0.68	100	684MCW100K	9
0.68	250	684MCW250K	12
0.68	400	684MCW400K	13
1.0	63	105MCW063K	9
1.0	100	105MCW100K	9
1.0	250	105MCW250K	12
1.0	400	105MCW400K	13
1.5	63	155MCW063K	9
1.5	100	155MCW100K	6
1.5	250	155MCW250K	12
1.5	400	155MCW400K	13
2.2	100	225MCW100K	6
2.2	250	225MCW250K	6
2.2	400	225MCW400K	13
3.3	63	335MCW063K	6
3.3	100	335MCW100K	6
3.3	250	335MCW250K	6
4.7	63	475MCW063K	6
4.7	100	475MCW100K	6
4.7	250	475MCW250K	6
6.8	63	685MCW063K	6
6.8	100	685MCW100K	6
6.8	250	685MCW250K	6
10.0	63	106MCW063K	6
10.0	100	106MCW100K	6
15.0	63	156MCW063K	6
15.0	100	156MCW100K	6
22.0	63	226MCW063K	6

NOTES: WVDC: = MAXIMUM RATED WORKING VOLTAGE @ +125°C.

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