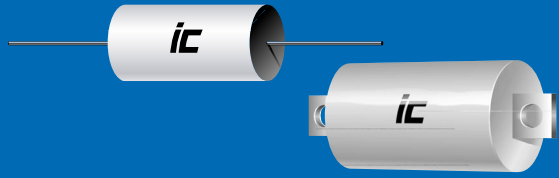


MPH/ MPL

+105°C Metallized Polypropylene Capacitors



Energized by ICEL High frequency, high current applications

FEATURES

- High ripple current ratings
- Low ESR
- Stable capacitance versus frequency and temperature

SPECIFICATIONS

Capacitance Tolerance	±10% (K) at 1kHz, 20°C	
Operating Temperature Range	-55°C to 105°C	
Voltage Range	100 WVDC to 400 WVDC	
Dissipation Factor	<0.1% @1kHz	
Insulation Resistance	≥200,000 MΩ x μF not to exceed 400,000MΩ	
Load Life	1,000 hours, +85°C with 125% Rated WVDC	
	Capacitance Change	≤±3% of initial readings @+25°C, 1kHz
	Dissipation Factor	≤.1% of initial reading at 1kHz @ +25°C
	Insulation Resistance	≥50% of minimum initial limit @ +25°C
Self-inductance	≤ 1nH/mm along the capacitor body and leads	
Capacitance Drift Factor	±1.0% (after 2 years)	
Maximum Pulse Rise Time	10 v/μ sec.	

PERFORMANCE RATING/TEST

RATED DC WORKING VOLTAGE (WVDC)

IC Type MPH and MPL capacitors are designed to operate at the specified rated maximum DC Working Voltage over a temperature range of -55°C to +105°C. Operation at temperatures up to and including +105°C are permissible without derating.

Operating Temperature	DC Voltage Rating
+25°C	100%
+85°C	100%
+105°C	100%

DIELECTRIC STRENGTH

160% rated DC voltage is applied for 2 seconds at +25°C

INSULATION STRENGTH

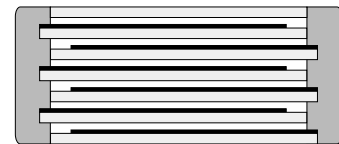
Terminal to Terminal: 100 VDC for 1 minute at 25°C (±).
Units will meet Insulation Resistance requirements

Humidity/Shelf Life Test, 21 days, 95%RH, +40°C and no applied voltage

Capacitance Change	≤2% of initial readings @ 25°C, 1kHz
Dissipation Factor Change	≤.1% of initial readings @+25°C, 1kHz
Insulation Resistance	≥50% of minimum initial

CONSTRUCTION

Type	Extended metallized film
Dielectric	Polypropylene film
Electrodes	Vacuum deposited aluminum layers
Leads	Tinned copper wire(MPH (minimum lead content 5%) or tinned copper lugs (MPL)
Coating	Flame retardant polyester tape wrap (UL510) with epoxy end seals UL94V-0



Extended metallized film design



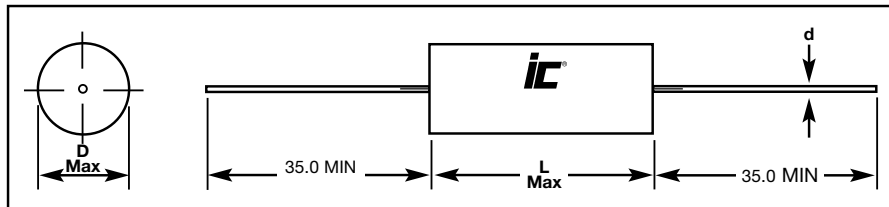
ILLINOIS CAPACITOR, INC. 3757 W. Touhy Ave., Lincolnwood, IL 60712 • (847) 675-1760 • Fax (847) 673-2850 • www.illcap.com

STANDARD PART LISTING

MPH

Capacitance (μF)	VVDC	ic PART NUMBER	Maximum E.S.R. (mΩ)	Maximum Ripple Current Amperes RMS (20kHz-100kHz)							D Max.	L Max.	d
				+25°C	+35°C	+45°C	+55°C	+65°C	+75°C	+85°C			
1.0	100	105MPH100K	15	9.2	8.5	7.8	7.0	6.0	4.9	4.5	13.5	20.5	0.8
1.0	200	105MPH200K	20	7.3	7.3	7.3	7.3	7.2	5.9	5.4	13.0	33.5	0.8
1.0	400	105MPH400K	19	9.5	9.5	9.5	9.5	9.5	7.8	7.1	18.1	39.5	1.0
2.0	100	205MPH100K	12	10.8	10.0	9.1	8.2	7.0	5.8	5.3	15.2	25.5	0.8
2.0	200	205MPH200K	15	12.0	12.0	11.3	10.1	8.7	7.1	6.5	17.7	33.5	0.8
2.0	400	205MPH400K	15	15.0	15.0	15.0	13.4	11.6	9.5	8.7	22.7	44.5	1.0
3.0	100	305MPH100K	11	12.1	11.2	10.3	9.2	8.0	6.5	5.9	18.2	25.5	1.0
3.0	200	305MPH200K	13	15.0	13.8	12.6	11.3	9.8	8.0	7.3	19.0	39.5	1.0
3.0	400	305MPH400K	12	15.0	15.0	15.0	15.0	13.1	10.7	9.8	27.6	44.5	1.0
5.0	100	505MPH100K	10	13.8	12.7	11.6	10.4	9.0	7.4	6.7	18.6	33.5	1.0
5.0	200	505MPH200K	11	15.0	15.0	14.7	13.1	11.4	9.3	8.5	21.9	44.5	1.0
5.0	400	505MPH400K	10	15.0	15.0	15.0	15.0	15.0	12.5	11.4	30.3	58.5	1.0
10.0	100	106MPH100K	9	15.0	15.0	14.2	12.7	11.0	9.0	8.2	22.8	39.5	1.0
10.0	200	106MPH200K	9	15.0	15.0	15.0	15.0	13.8	11.1	10.0	26.2	58.5	1.0
10.0	400	106MPH400K	6	15.0	15.0	15.0	15.0	15.0	15.0	14.1	42.4	58.5	1.0
20.0	100	206MPH100K	8	15.0	15.0	15.0	15.0	13.6	11.1	10.0	25.4	58.5	1.0
20.0	200	206MPH200K	6	15.0	15.0	15.0	15.0	15.0	14.1	12.8	36.6	58.5	1.0
30.0	100	306MPH100K	6	15.0	15.0	15.0	15.0	15.0	12.4	11.4	30.5	58.5	1.0

NOTE: ESR MAXIMUM EQUIVALENT SERIES RESISTANCE FOR FREQUENCIES ≥ 100 kHz. (mm) Convert to inches divide by 25.4



STANDARD PART LISTING

MPL

Capacitance (µf)	WVDC	iC [®] PART NUMBER	Maximum E.S.R. (mΩ)	Maximum Ripple Current Amperes RMS (20kHz-100kHz)							D Max.	L Nominal	L1 Nominal	c Nominal
				+25°C	+35°C	+45°C	+55°C	+65°C	+75°C	+85°C				
1.0	100	105MPL100K	15	10.3	9.5	8.7	7.8	6.7	5.5	5.0	13.5	25.5	41.7	38.5
1.0	200	105MPL200K	20	7.3	7.3	7.3	7.3	7.3	6.4	5.8	13.0	37.5	54.4	45.5
1.0	400	105MPL400K	19	9.5	9.5	9.5	9.5	9.5	8.3	7.5	18.1	44.5	60.7	51.5
2.0	100	205MPL100K	12	12.0	11.0	10.0	8.9	7.8	6.3	5.8	15.2	30.5	46.4	38.5
2.0	200	205MPL200K	15	14.3	13.2	12.1	10.8	9.4	7.7	7.0	17.7	37.5	54.4	45.5
2.0	400	205MPL400K	15	15.0	15.0	15.0	14.2	12.3	10.0	9.1	22.7	50.5	67.1	55.5
3.0	100	305MPL100K	11	13.3	12.3	11.2	10.0	8.7	7.1	6.5	18.2	30.5	46.4	38.5
3.0	200	305MPL200K	13	15.9	14.7	13.5	12.0	10.4	8.5	7.8	19.0	44.5	60.7	51.5
3.0	400	305MPL400K	12	21.1	19.5	17.8	15.9	13.8	11.3	10.3	27.6	50.5	67.1	55.5
5.0	100	505MPL100K	10	14.8	13.7	12.5	11.2	9.7	7.9	7.2	18.6	37.5	54.4	45.5
5.0	200	505MPL200K	11	18.3	17.0	15.5	13.9	12.0	9.8	8.9	21.9	50.5	67.1	55.5
5.0	400	505MPL400K	10	24.4	22.6	20.6	18.5	16.0	13.1	11.9	30.3	63.5	79.8	69.5
10.0	100	106MPL100K	9	17.8	16.5	15.0	13.5	11.7	9.5	8.7	22.8	44.5	60.7	51.5
10.0	200	106MPL200K	9	22.4	20.7	18.9	16.9	14.6	12.0	10.9	26.2	63.5	79.8	55.5
10.0	400	106MPL400K	6	30.0	27.8	25.4	22.7	19.7	16.1	14.7	42.4	63.5	79.8	69.5
20.0	100	206MPL100K	8	21.6	20.0	18.3	16.4	14.2	11.6	10.6	25.4	63.5	79.8	69.5
20.0	200	206MPL200K	6	27.4	25.4	23.2	20.7	17.9	14.7	13.4	36.6	63.5	79.8	69.5
30.0	100	306MPL100K	6	24.3	22.5	20.5	18.4	15.9	13.0	11.9	30.5	63.5	79.8	69.5

NOTE: ESR MAXIMUM EQUIVALENT SERIES RESISTANCE FOR FREQUENCIES ≥ 100 kHz. (mm) Convert to inches divide by 25.4

