

# XMPL



## Aluminum Polymer Capacitors

SMD Solid Conductive (multilayer-type)

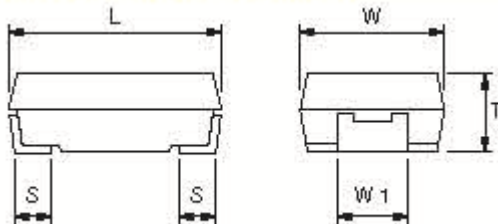
### FEATURES

Small Size – Low Impedance – Halogen Free Epoxy – RoHS Compliant – Stable with Temperature, Applied Voltage and Frequency

### APPLICATIONS

Decoupling – Noise Suppression

<b>Operating Temperature Range</b>		<b>-40°C to +105°C</b>							
<b>Capacitance Tolerance</b>		<b>±20% (M), -35% +10% (Y)</b> <b>120 Hz, 20°C</b>							
<b>Surge Voltage</b>	<b>WVDC</b>	2	2.5	4	6.3	10	12.5	16	
	<b>SVDC</b>	1.25*WVDC							
<b>Dissipation Factor</b>	<b>WVDC</b>	2	2.5	4	6.3	10	12.5	16	
	<b>Tan δ</b>	.06							
<b>Leakage Current (25°C) MAX</b>		<b>Time</b>	<b>≤10 VDC</b>				<b>≥12.5 VDC</b>		
		<b>2 Minutes</b>	0.04CV				0.1CV		
<b>Load Life</b>		<b>1000 hours at 105°C with rated WVDC applied</b>							
		<b>Capacitance Change</b>	≤10% of initial measured value						
		<b>Dissipation Factor</b>	≤100% of maximum specified value						
		<b>Leakage Current</b>	≤100% of maximum specified value						
<b>Moisture Resistance Test</b>		<b>500 hours at 60°C and 90% relative Humidity with no voltage applied</b>							
		<b>Capacitance Change</b>	≤20% to +70% of initially measured value						
		<b>Dissipation Factor</b>	≤200% of maximum specified value						
		<b>Leakage Current</b>	≤100% of maximum specified value						
<b>Moisture Sensitivity Level (MSL)</b>		3							



Case size	EIA Code	L±0.2	W±0.2	T±0.2	W1±0.1	S±0.3
G19	7343	7.3	4.3	1.9	2.4	1.3
G28	7343	7.3	4.3	2.8	2.4	1.3



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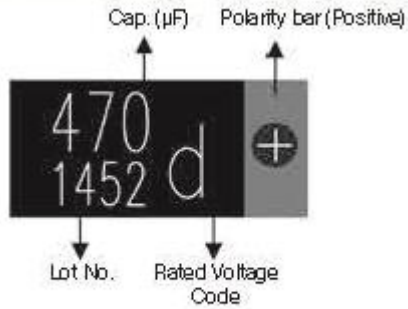
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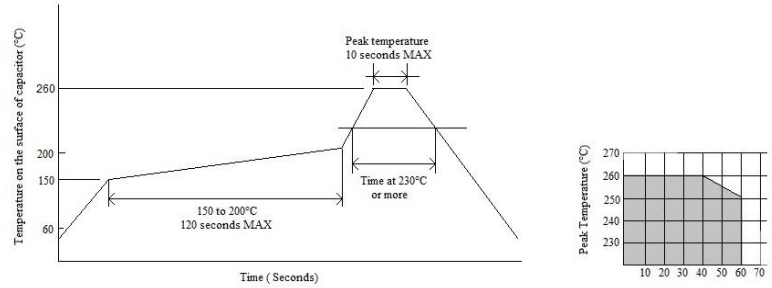


### Markings



Example: 470 $\mu\text{F}$ /2V

### Recommended soldering profile



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+105°C Multi-layer Low Profile Chip

Capacitance (µF)	WVDC	IC PART NUMBER	Maximum ESR (Ω) 120 Hz, +20°C	Maximum ESR (mΩ) 100 kHz, +20°C	Leakage Current (µA)	Maximum RMS Ripple Current (A) 100 kHz, +105°C	Dimensions LxHxT (mm)
6.8	16	685XMPL016MG19	14.6282	70	32.64	2	7.3x4.3x1.9
10	6.3	106XMPL6R3MG19	9.9472	40	6.3	1	7.3x4.3x1.9
10	10	106XMPL010MG19	9.9472	45	30	1	7.3x4.3x1.9
10	12	106XMPL012MG19	9.9472	55	37.5	1	7.3x4.3x1.9
10	16	106XMPL016MG19	9.9472	40	48	2	7.3x4.3x1.9
15	12	156XMPL012MG19	6.6315	45	56.25	1	7.3x4.3x1.9
15	16	156XMPL016MG19	6.6315	40	72	3	7.3x4.3x1.9
22	6.3	226XMPL6R3MG19	4.5214	35	13.86	1	7.3x4.3x1.9
22	10	226XMPL010MG19	4.5214	40	66	1.8	7.3x4.3x1.9
22	12	226XMPL012MG19	4.5214	30	82.5	1.8	7.3x4.3x1.9
22	16	226XMPL016MG19	4.5214	40	105.6	3	7.3x4.3x1.9
22	16	226XMPL016MG28	4.5214	40	105.6	3	7.3x4.3x2.8
33	6.3	336XMPL6R3MG19	3.0143	25	20.79	1.8	7.3x4.3x1.9
33	10	336XMPL010MG19	3.0143	40	99	2	7.3x4.3x1.9
33	12	336XMPL012MG28	3.0143	25	123.75	2	7.3x4.3x2.8
47	6.3	476XMPL6R3MG19	2.1164	25	29.61	1.8	7.3x4.3x1.9
47	10	476XMPL010MG19	2.1164	40	141	3	7.3x4.3x1.9
47	12	476XMPL012MG28	2.1164	20	176.25	2	7.3x4.3x2.8
68	4	686XMPL004MG19	1.4628	20	27.2	1.9	7.3x4.3x1.9
68	6.3	686XMPL6R3MG19	1.4628	15	42.84	2	7.3x4.3x1.9
68	10	686XMPL010MG28	1.4628	40	204	3	7.3x4.3x2.8
82	4	826XMPL004MG19	1.2131	9	32.8	3	7.3x4.3x1.9
100	2	107XMPL002MG19	0.9947	16	20	2	7.3x4.3x1.9
100	4	107XMPL004MG19	0.9947	9	40	3	7.3x4.3x1.9
100	6.3	107XMPL6R3MG19	0.9947	15	63	2.7	7.3x4.3x1.9
100	6.3	107XMPL6R3MG19H	0.9947	12	63	2.7	7.3x4.3x1.9
120	6.3	127XMPL6R3MG19X	0.8289	9	75.6	2.7	7.3x4.3x1.9
120	6.3	127XMPL6R3MG19	0.8289	15	75.6	2.7	7.3x4.3x1.9
120	6.3	127XMPL6R3MG19H	0.8289	12	75.6	2.7	7.3x4.3x1.9
150	2	157XMPL002MG19	0.6631	9	30	3	7.3x4.3x1.9
150	2.5	157XMPL2R5MG28	0.6631	9	37.5	3	7.3x4.3x2.8
150	2.5	157XMPL2R5MG19	0.6631	9	37.5	3	7.3x4.3x1.9
150	4	157XMPL004MG19	0.6631	12	60	3	7.3x4.3x1.9
150	4	157XMPL004MG19R	0.6631	7	60	3	7.3x4.3x1.9
150	4	157XMPL004MG19X	0.6631	9	60	3	7.3x4.3x1.9
150	6.3	157XMPL6R3MG28	0.6631	15	94.5	3	7.3x4.3x2.8
150	6.3	157XMPL6R3MG28H	0.6631	12	94.5	3	7.3x4.3x2.8
150	6.3	157XMPL6R3MG19	0.6631	15	94.5	3	7.3x4.3x1.9
150	6.3	157XMPL6R3MG19H	0.6631	12	94.5	3	7.3x4.3x1.9
150	6.3	157XMPL6R3MG19X	0.6631	9	94.5	3	7.3x4.3x1.9
150	6.3	157XMPL6R3MG28X	0.6631	9	94.5	3	7.3x4.3x2.8
180	2	187XMPL002MG19	0.5526	9	36	2.7	7.3x4.3x1.9
180	2.5	187XMPL2R5MG19	0.5526	9	45	3	7.3x4.3x1.9
180	2.5	187XMPL2R5MG28	0.5526	9	45	3	7.3x4.3x2.8
180	4	187XMPL004MG28R	0.5526	7	72	3	7.3x4.3x2.8
180	4	187XMPL004MG28X	0.5526	9	72	3	7.3x4.3x2.8
180	4	187XMPL004MG19H	0.5526	12	72	3	7.3x4.3x1.9
180	4	187XMPL004MG19R	0.5526	7	72	3	7.3x4.3x1.9
180	4	187XMPL004MG19X	0.5526	9	72	3	7.3x4.3x1.9
180	4	187XMPL004MG28H	0.5526	12	72	3	7.3x4.3x2.8
180	6.3	187XMPL6R3MG19	0.5526	15	113.4	2.7	7.3x4.3x1.9
220	2	227XMPL002MG19	0.4521	15	44	3	7.3x4.3x1.9
220	2.5	227XMPL2R5MG19H	0.4521	12	55	3	7.3x4.3x1.9
220	2.5	227XMPL2R5MG19R	0.4521	7	55	3	7.3x4.3x1.9
220	2.5	227XMPL2R5MG19X	0.4521	9	55	3	7.3x4.3x1.9
220	2.5	227XMPL2R5MG28H	0.4521	12	55	3	7.3x4.3x2.8
220	2.5	227XMPL2R5MG28R	0.4521	7	55	3	7.3x4.3x2.8
220	2.5	227XMPL2R5MG28X	0.4521	9	55	3	7.3x4.3x2.8

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+105°C Multi-layer Low Profile Chip

Capacitance (µF)	WVDC	IC PART NUMBER	Maximum ESR (Ω) 120 Hz, +20°C	Maximum ESR (mΩ) 100 kHz, +20°C	Leakage Current (µA)	Maximum RMS Ripple Current (A) 100 kHz, +105°C	Dimensions LxHxT (mm)
220	4	227XMPL004MG28R	0.4521	7	88	3	7.3x4.3x2.8
220	4	227XMPL004MG28X	0.4521	9	88	3	7.3x4.3x2.8
220	4	227XMPL004MG19H	0.4521	12	88	3	7.3x4.3x1.9
220	4	227XMPL004MG19R	0.4521	7	88	3	7.3x4.3x1.9
220	4	227XMPL004MG19X	0.4521	9	88	3	7.3x4.3x1.9
220	4	227XMPL004MG28H	0.4521	12	88	3	7.3x4.3x2.8
220	6.3	227XMPL6R3MG19	0.4521	10	138.6	3	7.3x4.3x1.9
220	6.3	227XMPL6R3MG28	0.4521	15	138.6	3	7.3x4.3x2.8
270	2	277XMPL002MG19H	0.3684	12	54	3	7.3x4.3x1.9
270	2	277XMPL002MG19R	0.3684	6	54	3	7.3x4.3x1.9
270	2	277XMPL002MG19X	0.3684	9	54	3	7.3x4.3x1.9
270	2.5	277XMPL2R5MG28R	0.3684	7	67.5	3	7.3x4.3x2.8
270	2.5	277XMPL2R5MG28X	0.3684	9	67.5	3	7.3x4.3x2.8
270	2.5	277XMPL2R5MG19X	0.3684	9	67.5	3	7.3x4.3x1.9
270	2.5	277XMPL2R5MG28H	0.3684	12	67.5	3	7.3x4.3x2.8
270	2.5	277XMPL2R5MG19H	0.3684	12	67.5	3	7.3x4.3x1.9
270	2.5	277XMPL2R5MG19R	0.3684	7	67.5	3	7.3x4.3x1.9
270	4	277XMPL004MG19R	0.3684	7	108	2.7	7.3x4.3x1.9
270	4	277XMPL004MG19X	0.3684	9	108	2.7	7.3x4.3x1.9
270	4	277XMPL004MG19H	0.3684	12	108	2.7	7.3x4.3x1.9
330	2	337XMPL002MG28H	0.3014	12	66	3	7.3x4.3x2.8
330	2	337XMPL002MG28A	0.3014	4.5	66	3	7.3x4.3x2.8
330	2	337XMPL002MG19A	0.3014	4.5	66	3	7.3x4.3x1.9
330	2	337XMPL002MG19R	0.3014	6	66	3	7.3x4.3x1.9
330	2	337XMPL002MG19H	0.3014	12	66	3	7.3x4.3x1.9
330	2	337XMPL002MG28R	0.3014	6	66	3	7.3x4.3x2.8
330	2	337XMPL002MG28X	0.3014	9	66	3	7.3x4.3x2.8
330	2	337XMPL002MG19X	0.3014	9	66	3	7.3x4.3x1.9
330	2.5	337XMPL2R5MG19A	0.3014	4.5	82.5	3	7.3x4.3x1.9
330	2.5	337XMPL2R5MG19R	0.3014	6	82.5	3	7.3x4.3x1.9
330	2.5	337XMPL2R5MG19X	0.3014	9	82.5	3	7.3x4.3x1.9
330	2.5	337XMPL2R5MG19H	0.3014	12	82.5	3	7.3x4.3x1.9
330	4	337XMPL004YG19X	0.3014	9	132	2.7	7.3x4.3x1.9
330	4	337XMPL004YG19R	0.3014	7	132	2.7	7.3x4.3x1.9
330	4	337XMPL004YG19H	0.3014	12	132	2.7	7.3x4.3x1.9
330	6.3	337XMPL6R3YG19	0.3014	10	207.9	3	7.3x4.3x1.9
330	6.3	337XMPL6R3YG28	0.3014	10	207.9	3	7.3x4.3x2.8
390	2	397XMPL002MG19X	0.2551	9	78	3	7.3x4.3x1.9
390	2	397XMPL002MG19R	0.2551	6	78	3	7.3x4.3x1.9
390	2	397XMPL002MG19A	0.2551	4.5	78	3	7.3x4.3x1.9
390	2.5	397XMPL2R5MG19R	0.2551	6	97.5	3	7.3x4.3x1.9
390	2.5	397XMPL2R5MG19X	0.2551	9	97.5	3	7.3x4.3x1.9
390	2.5	397XMPL2R5MG19H	0.2551	12	97.5	3	7.3x4.3x1.9
390	2.5	397XMPL2R5MG19A	0.2551	4.5	97.5	3	7.3x4.3x1.9
470	2	477XMPL002MG19X	0.2116	9	94	3	7.3x4.3x1.9
470	2	477XMPL002MG28A	0.2116	4.5	94	3	7.3x4.3x2.8
470	2	477XMPL002MG28X	0.2116	9	94	3	7.3x4.3x2.8
470	2	477XMPL002MG28R	0.2116	6	94	3	7.3x4.3x2.8
470	2	477XMPL002MG19A	0.2116	4.5	94	3	7.3x4.3x1.9
470	2	477XMPL002MG19R	0.2116	6	94	3	7.3x4.3x1.9
470	2.5	477XMPL2R5YG19R	0.2116	6	117.5	3	7.3x4.3x1.9
470	2.5	477XMPL2R5YG28A	0.2116	4.5	117.5	3	7.3x4.3x2.8
470	2.5	477XMPL2R5YG19X	0.2116	9	117.5	3	7.3x4.3x1.9
470	2.5	477XMPL2R5YG28H	0.2116	12	117.5	3	7.3x4.3x2.8
470	2.5	477XMPL2R5YG28R	0.2116	6	117.5	3	7.3x4.3x2.8
470	2.5	477XMPL2R5YG28X	0.2116	9	117.5	3	7.3x4.3x2.8
470	2.5	477XMPL2R5YG19A	0.2116	4.5	117.5	3	7.3x4.3x1.9
470	2.5	477XMPL2R5YG19H	0.2116	12	117.5	3	7.3x4.3x1.9