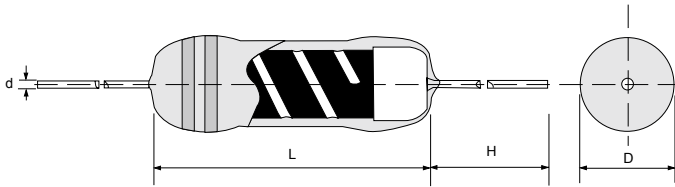


MP Metal Film Precision Resistor

Quality • Reliability
Cost-Down via Technology

MP



Specifications Per

- IEC 60115-1
- MIL R-10509

Features

- Conformal multi-layer coating
- Color code per MIL & EIA standards
- Special tin-plated electrolytic copper lead wire
- Products meet RoHS requirements and do not contain substances of very high concern identified by European Chemicals Agency

DIMENSIONS

Type	Body Length (L, mm)	Body Diameter (D, mm)	Lead Wire Length (H, mm)	Lead Wire Diameter (d, mm)	Net Weight Per 1000Pcs
MP16	3.2 ± 1.0	1.9 ± 0.2	28 ± 3.0	0.45 ± 0.02	145 Grams
MP25	6.5 ± 1.0	2.4 ± 0.2	26 ± 3.0	0.55 ± 0.03	220 Grams
MP51	8.8 ± 1.0	3.2 ± 0.2	26 ± 3.0	0.60 ± 0.03	340 Grams

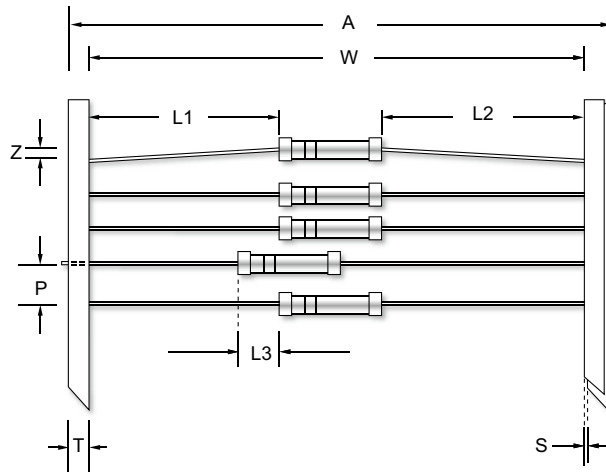
GENERAL SPECIFICATIONS

Type	Power Rating (at 70°C)	Maximum Working Voltage	Maximum Overload Voltage	Minimum Resistance	Maximum Resistance	Resistance Tolerance	Available Resistance Values
MP16	1/6W	150V	300V	10Ω	500KΩ	±0.5%	E-24/E-192
						±0.25%	
						±0.1%	
						±0.05%	
MP25	1/4W	250V	500V	10Ω	1MΩ	±0.5%	E-24/E-192
						±0.25%	
						±0.1%	
						±0.05%	
MP51	1/2W	350V	700V	10Ω	1MΩ	±0.5%	E-24/E-192
						±0.25%	
						±0.1%	
						±0.05%	

Special sizes, values, and specifications not listed available on special order.

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■ TAPING SPECIFICATIONS



Unit (mm)

Type	A (Max.)	L1-L2 (Max.)	L3 (Max.)	P ±0.5	S (Max.)	T ±0.5	W ±1.5	Z (Max.)
MP16	65	±1.0	0.5	5.0	0.8	6.0	52.5	1.2
MP25	65	±1.0	0.5	5.0	0.8	6.0	52.5	1.2
MP51	65	±1.0	0.5	5.0	0.8	6.0	52.5	1.2

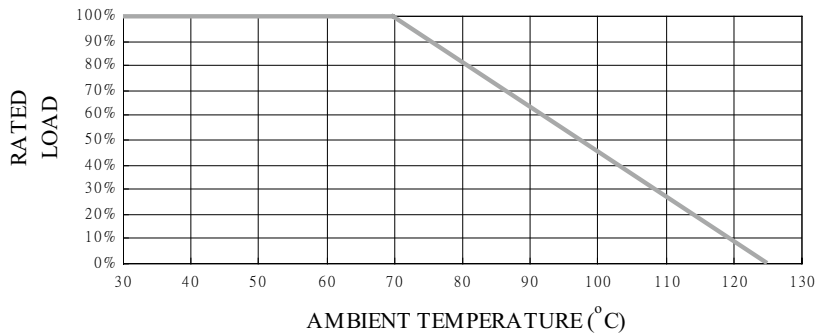
Type	Packing Type	MP16	MP25	MP51
Minimum Packing QTY (pcs)	Ammo pack	5000	5000	2000

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POWER DERATING CURVE



PART NUMBER

Example: MP25B49K9TKQTB5K0

MP25	B	49K9	TKQ	TB5K0
Type	Tolerance*	Resistance	TCR*	Packaging
	B (0.1%) C (0.25%) D (0.5%)	49.9KΩ 4-character code containing - 3 significant digits 1 letter multiplier MULTIPLIER R = 1 K = 10 ³ M = 10 ⁶ G = 10 ⁹	25ppm 3-character code TKN = ± 10 ppm TKP = ± 15 ppm TKQ = ± 25 ppm TKR = ± 50 ppm	5-character code TB = Tape Box (pieces per box) <u>MP16/MP25</u> 5K0 = 5,000 <u>MP51</u> 2K0 = 2,000

* Listed values may not be applicable across product types or to all resistance values. Please check with us before placing order.

TECHNICAL SPECIFICATIONS

Characteristics	Limits	
Dielectric Withstanding Voltage, VAC or DC	MP16 MP25 MP51	300 500 700
Temperature Coefficient, PPM / °C*	±50, ±25, ±15, ±10	
Operating Temperature Range, °C	-55~+125	
Insulation Resistance, MΩ	10 ⁴	

* Not applicable to all resistance values. Please check with us regarding the PPM of specific resistance value(s).

■ PERFORMANCE SPECIFICATIONS

Characteristics	Test Conditions	Limits
Short Time Over Load	IEC 60115-1 4.13 5 seconds 2.5x rated voltage (not over max. overload voltage)	±0.15%
Load Life In Humidity	IEC 60115-1 4.24 56 days rated load at (40±2)°C and (93±3)% relative humidity	±0.75%
Load Life 1,000 hours	IEC 60115-1 4.25.1 Rated load with 1.5 hours ON, 0.5 hours OFF, at (70±2)°C	±0.5%
Resistance To Soldering Heat	IEC 60115-1 4.18.2 Leads immersed till 3mm from the body in (260±5)°C solder for 10±1 seconds	±0.15%
Solderability	IEC 60115-1 4.17.2 Solder area covered after (235±3)°C/(2±0.2) seconds with flux applied	95% Min.
Vibration	IEC 60115-1 4.22 Six hours in each parallel and axial direction with a simple harmonic motion having an amplitude of 0.75mm and 10 to 500 Hz.	±0.1%
Thermal Endurance	IEC 60115-1 4.25.3 1000 hours at 125°C without load	±0.15%
Thermal Shock	IEC 60115-1 4.19 -55°C 30minutes, +125°C 30minutes, 5 cycles	±0.15%