

MP Series

Ultra Precision Molded Metal Film Resistors



- Resistances from 100ohm to 3MOhms
- Power Rating to 1.0Watts
- Resistance Tolerances to $\pm 0.025\%$
- TCR's to $\pm 2\text{ppm/K}$
- Convenient RN Type Package Styles

SPECIFICATIONS

Type		MP55	MP60	MP65	MP70
MIL-R-10509F		RN55	RN60	RN65	RN70
DIN-44061		0207	0411	0617	0719
Power rating (125°C)		0.10W	0.125W	0.25W	0.5W
Power rating (70°C)		0.25W	0.5W	0.75W	1.0W
Tolerances		0.025% / 0.05% / 0.10% / 0.25% / 0.5% / 1%			
Temperature Coefficient		2 / 3/ 5 / 10 / 15 / 25ppm/°C			
Resistance Range (based on tolerance/ TCR)	0.025% 0.05% 0.10% 0.25% 0.5% 1%; 2ppm/C 3ppm/C 5ppm/C 10ppm/C 15ppm/C	10 - 100kΩ			
	0.05% 0.1% 0.25% 0.5% 1% 5ppm/C 10ppm/C 15ppm/C 25ppm/C	10 - 300kΩ			
	0.1% 0.25% 0.5% 1% 15ppm/C 25ppm/C	10 to 3MΩ			
Operating Voltage (Umax)		250V	300V	350V	400V
Short Time Overload Voltage		500V	600V	700V	800V
Operating Temperature Range		-55 to 155°C			
Max. Resistance Change at rated power ΔR/R max after 1000h		≤0.025%		≤0.05%	
Insulation Resistance		>1G			
Insulation Voltage		>500V			
Dimensions in mm [inches]					
L		6.8 [0.27]	10.0 [0.39]	15 [0.98]	18.3 [0.72]
D		2.5 [0.1]	3.7 [0.15]	5.2 [0.20]	6.5 [0.26]
d		0.6 [0.024]	0.6 [0.024]	0.6 [0.024]	0.8 [0.031]
Tolerance		±0.1 [0.003]	±0.1 [0.003]	±0.1 [0.003]	±0.1 [0.003]

Ordering Information

Part Number - Resistance - Tolerance
MP55 100 Ohms 0.5%

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Test	Results
Short Time Overload $V = 2.5 * \sqrt{P_{70}} * R \leq 2V_{max}$; 5s	$\pm 0.025\% + 0.05 \Omega$
Solderability 215°C for 3s	95% coverage; no visible damage
Resistance to Soldering Heat $260 \pm 5^\circ\text{C}$; $5 \pm 1\text{s}$	$\pm 0.025\% + 0.05 \Omega$
Rapid Change of Temperature 30 min at -55°C ; 30 min at 155°C ; 5 cycles	$\pm 0.025\% + 0.05 \Omega$
Vibration 6h 10 to 200Hz 1.5mm or 196 m/s	$\pm 0.025\% + 0.05 \Omega$
Damp Heat Steady State $40 \pm 2^\circ\text{C}$; 56 days 93 $\pm 2/-3\%$ RH	$\pm 0.05\% + 0.05 \Omega$
Load Life $V = 2.5 * \sqrt{P_{70}} * R \leq V_{max}$ 1.5h on ; 0.5h off 70C 1000h	$\pm 0.05\% + 0.05 \Omega$

