

High Power Resistors

Type MPC Series

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A range of non inductive thick film power resistors complementing the T0220 packaged MPR series (20 Watt heat sink styles), being vertically mounted and suitable to dissipate power from 3 Watts up to 10 Watts. Available in values from 1R0 to 200K ohms they are the idea solution for small snubber circuits, the output side of high speed pulse generators and low inductive resistor requirements in switch mode power supplies.

Key Features

- High Power Density
- Easy to Mount
- Non Inductive
- Stable at 100ppm/°C
- Temperature Range -55°C to +125°C
- High Power up to 10 Watts
- Voltage Proof 5000V dc
- Non Flammable

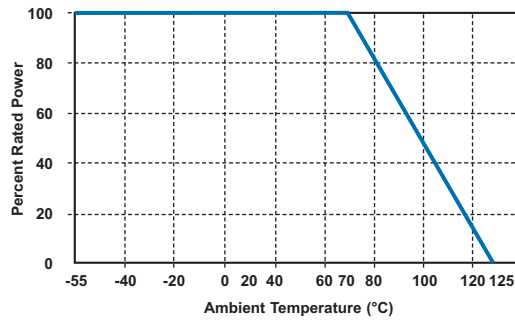
Characteristics - Electrical

| | |
|--|--|
| Resistance Values: | R10 to 200K |
| Resistance Tolerance: | 1%, 5% |
| Temp. Coefficient of Resistance: | ±100ppm/°C |
| Rated Power @ 70°C: | 3 to 10 Watts nominal |
| Equivalent Parallel Capacitance (100 MHz): | 1.0pf |
| Maximum Operating Voltage: | 300V AC |
| Withstanding Voltage: | 5000V |
| Operating Temperature Range: | -55°C to +125°C |
| Overload Current: | 20 x rated current up to 8 ms (ΔR ± 0.5%) |

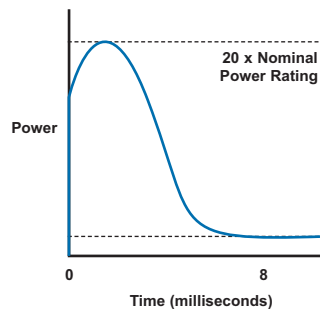
Characteristics - Mechanical

| | Test Condition MILR83401 | Specification |
|------------------------|--|-------------------------|
| Life (Rated Power): | 40°C, rated power, 90 min ON 30 min OFF, 1000 hrs. | ΔR± (1.0% + 0.05 ohm) |
| Life (Moisture Load): | 60°C, 90 - 95% RH, rated power 90 min ON 30 min OFF, 1000 hrs. | ΔR± (1.0% + 0.05 ohm) |
| Temperature Cycling: | Room temp > -55°C 30 min > RT 10 min ± 120°C 30 min > RT 10 min 5 cycles | ΔR± (0.25% + 0.05 ohm) |
| Flammability: | UL94V-O rated | |
| Soldering Heat: | 350°C Solderpot, 3 secs. | ΔR± (0.25% + 0.05 ohm) |
| Insulation Resistance: | DC 100V, 1 min | Over 1000M ohm |
| Vibration: | 10 - 50 Hz, 1 min, 20G, X-Y-Z 1 hr. | ΔR± (0.25% + 0.05 ohm) |

Power Derating Curve



Overload Characteristics



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Dimensions



| Size | MPC3 | MPC5 | MPC7 | MPC10 |
|------|-------|------|-------|-------|
| A | 10.16 | 12.7 | 19.05 | 25.4 |
| B | 5.08 | 5.08 | 12.70 | 20.32 |

Product Marking

| Value (Ohms) | 1 | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 500 | 1K | 2K | 5K | 10K | 20K | 50K | 100K | 200K |
|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| Code | 1R0 | 2R0 | 5R0 | 100 | 200 | 500 | 101 | 201 | 501 | 102 | 202 | 502 | 103 | 203 | 503 | 104 | 204 |

How to Order

| MPC | 52 | 1K0 | J |
|----------------------------------|--|-------------------------|------------------|
| Common Part | Power Rating / Size | Resistance Value | Tolerance |
| MPC - Thick Film Planar Resistor | 32 - 3 Watts 52 - 5 Watts 75 - 7 Watts 108 - 10 Watts | See code in table above | F ±1% J ±5% |

NB: Due to the wide range of available values/tolerances etc. some variants may not be tooled for production. It is possible that a small tooling charge may be levied dependant on order quantity or potential. Please check.