



Radial Leaded High Power Resistors



Type MPR Series

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This small size non-inductive, high power resistor is an innovative and significant first for Tyco Electronics. Occupying a standard T0220 package it is ideally suited to positions where high power dissipation, small size and tight tolerance are key design requirements.

This series is an ideal solution for the output side of high speed pulse generators, a surge absorption resistor in switch mode power supplies and for monitors, display terminals, scientific workstations and other brown and white goods.

Key Features

- Small Size (T0220 Package)
- Easy to Mount
- Non Inductive
- High Frequency Range up to 300MHz
- Temperature Range -55°C to +155°C
- High Power 20W with Suitable Heatsink
- Voltage Proof 2000V dc
- Non Flammable

Characteristics - Electrical

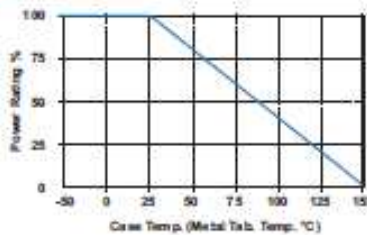
| | | | |
|--|--|-----------|-----------|
| Resistance Range: | R22 - R91 | 1R0 - 9R1 | 10R - 51K |
| Resistance Tolerance: | 5% | 5% | 1% / 5% |
| Temp. Coefficient of Resistance (TCR): | 250ppm/°C | 100ppm/°C | 50ppm/°C |
| Rated Power (on Suitable Heatsink): | 20 Watts | | |
| Rated Power (W/O Heatsink): | 2 Watts * (See note below) | | |
| Equivalent Parallel Capacitance: | 1.0 pF | | |
| Maximum Operating Voltage: | 500V dc | | |
| Withstand Voltage: | 2000 V dc (Between terminals and heatsink) | | |
| Operating Temperature Range: | -55°C to +155°C | | |
| Rated Ambient Temperature: | -25°C to +40°C | | |

* With a 5.8°C watt heatsink or better at a 25°C ambient temperature, 20 watts can be dissipated. A larger heatsink will allow the resistor to run at a lower temperature.

Characteristics - Mechanical

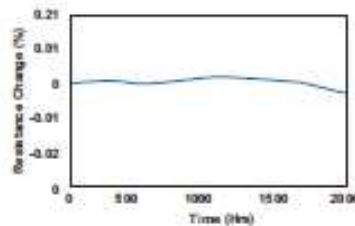
| | Test Condition | Specification |
|------------------------|--|-------------------------|
| Life (Rated Power): | 40°C, rated power, 90 min on, 30 min off, 1000 hours | ΔR ± (1.0% + 0.05 ohm) |
| Life (Moisture Load): | 60°C, 90 - 95% RH, rated power, 90 min ON, 30 min OFF, 1000 hours | ΔR ± (1.0% + 0.05 ohm) |
| Temperature Cycling: | Room temp to 55°C 30 min > RT, 1 minute 120°C 30 min > RT 10 cycles 5 cycles | ΔR ± (0.25% + 0.05 ohm) |
| Short Time Overload: | Rated voltage, 2.5, 5sec | ΔR ± (0.25% + 0.05 ohm) |
| Soldering Heat: | 260°C solder pot, 3sec | ΔR ± (1.0% + 0.05 ohm) |
| Insulation Resistance: | DC 500V, 1 min | Over 1000M ohm |
| Vibration: | 10 - 50 Hz, 1 min, 20G, X-Y-Z 1 hour | ΔR ± (0.5% + 0.05 ohm) |

Power Derating Curve

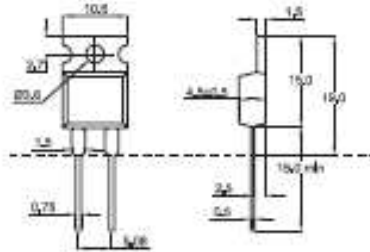


Load Life in High Temperature & Humidity

(70°C 95% DC Rated Power x 0.1) Continuous



Dimensions



PCB Piercing Plan



How to Order

| MPR | 20 | C | 680R | J |
|--------------------------------|---|--|---|------------------|
| Common Part | Wattage Rating @ 25°C with resistink | Temp. Coefficient of Resistance | Resistance Value | Tolerance |
| MPR - High Power Film Resistor | 20 - 20 Watts | C - 50ppm/°C A - 100ppm/°C H - 250ppm/°C | 0.1 ohm (100 milliohms) R10 1 ohm (1000 milliohms) 1R0 1K ohm (1000 ohms) 1K0 | F - 1% J - 5% |

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