

140W TO-247 HIGH POWER RESISTORS

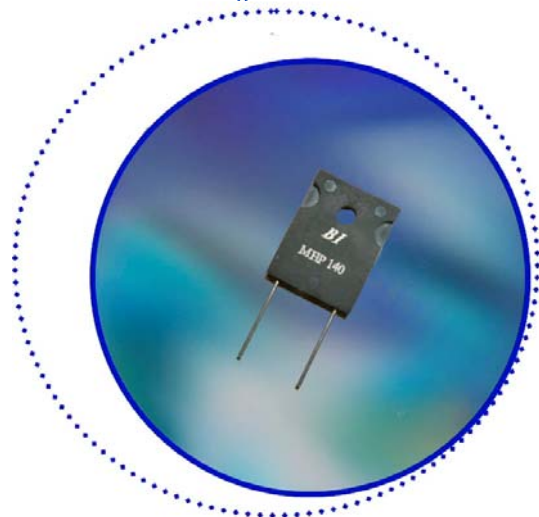
Features

- Non-inductive, high power resistor.
- Thermally enhanced Industry standard TO-247 package.
- Extremely Low thermal resistance, 0.9 °C/W resistor hot spot to metal tab.
- Complete thermal flow design available for easy implementation.
- Small thin package for high density PCB installation.
- RoHS compliant.

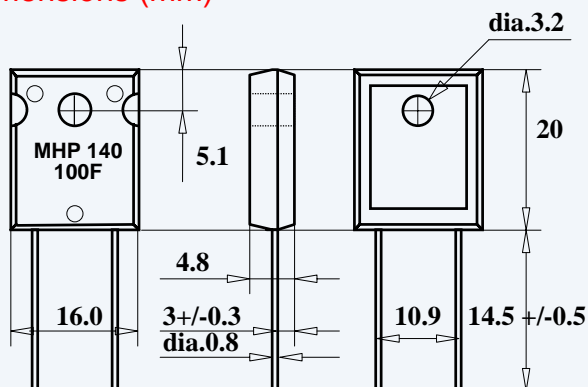
Applications

- High frequency circuits and RF power amplifiers.
- UPS and power supply circuits
- Motor control and power/RF power amplifiers.
- Industrial power equipment.
- PLC drivers.
- Inrush current protection.

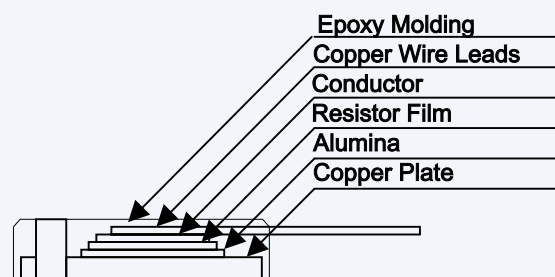
Specification



Dimensions (mm)



Structure and Material



| Items | Specification | | | Conditions |
|---------------------------------|----------------------------------|------------|-----------|--|
| Power Rating | 140 Watts | | | @ Tab Temp < 25°C |
| Power Rating | 5.0 Watts | | | Free air. |
| Resistance Range | 0.01-0.09 Ω | 0.1-9.1 Ω | 10-220 Ω | Extended resistance range to 51KΩ avail. |
| Nominal Resistance Series | E6 | E12 | E24 | 2.0 Ω and 5.0 Ω also available. |
| TCR | 250 ppm/°C | 100 ppm/°C | 50 ppm/°C | For -55 to +155°C |
| Tolerance | 5% | 5% and 1% | 1% | |
| Operation Temp. Range | -55 - +155 °C | | | |
| Rated Voltage (Max). | 700V or $\sqrt{P \cdot R}$ | | | |
| Dielectric Withstanding Voltage | 2500 Volt | | | 60 seconds. |
| Load Life | ΔR +/- (1.0 % + 0.05 Ω) | | | 25°C, 90 min. ON, 30 min. OFF, 1000 hours. |
| Humidity | ΔR +/- (1.0 % + 0.05 Ω) | | | 40°C, 90-95% RH, DC 0.1W, 1000 hours. |
| Temperature Cycle | ΔR +/- (0.25 % + 0.05 Ω) | | | -55°C, 30 min., +155°C 30min., 5cycles. |
| Soldering Heat (Max) | ΔR +/- (0.25 % + 0.05 Ω) | | | 250+/-5°C, 3 seconds, |
| Solderability | Min 95% coverage | | | 230+/-5°C, 3 seconds. |
| Insulation Resistance | Over 1000 MΩ | | | Between terminals and metal back plate. |
| Vibration | ΔR +/- (0.25 % + 0.05 Ω) | | | |

Specifications subject to change without notice.

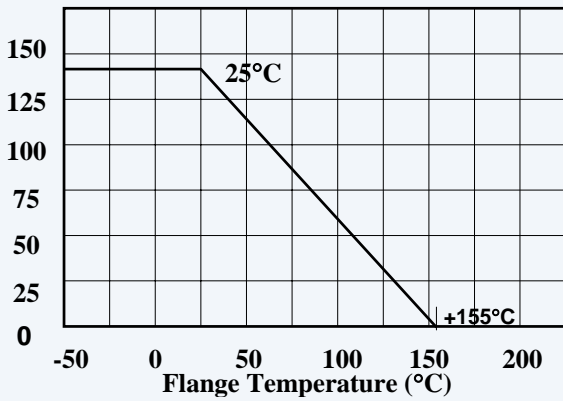
Notes:

1. Electrically isolated metal tab.
2. Recommend the use of thermal grease between metal tab and heat sink.
3. Thermal design should account for a thermal resistance between resistor and tab of 0.9°C/W and a maximum resistor temperature of 155°C.
4. Resistances greater than 220Ω are available, please call factory.
5. Current rating: 25A maximum.

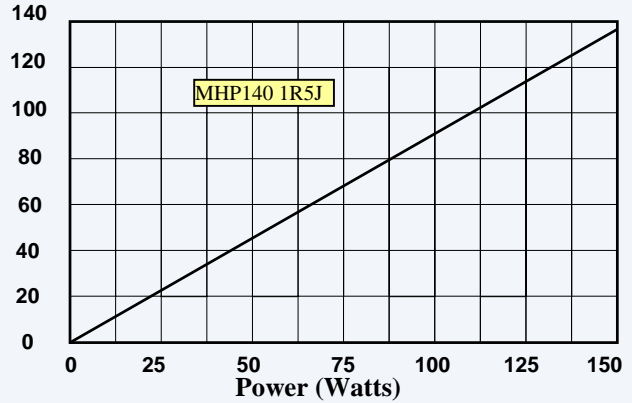
MHP 140

Derating Curve

Power rating (Watts)

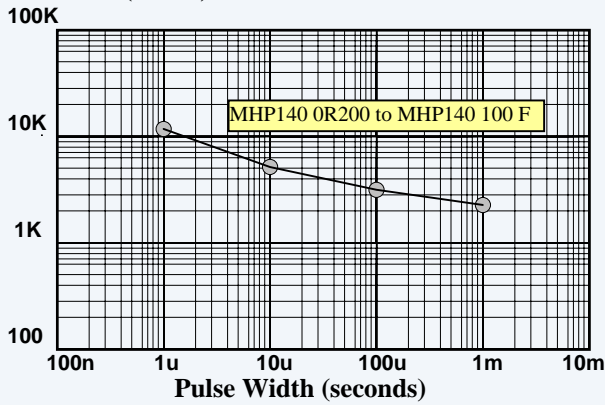


Temperature Rise



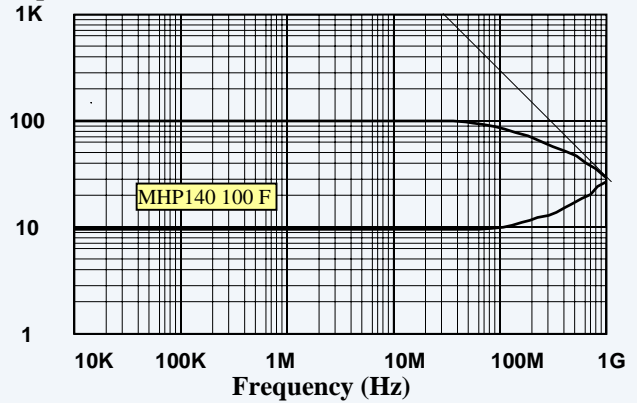
Pulse Energy Durability

Pulse Peak (Watts)



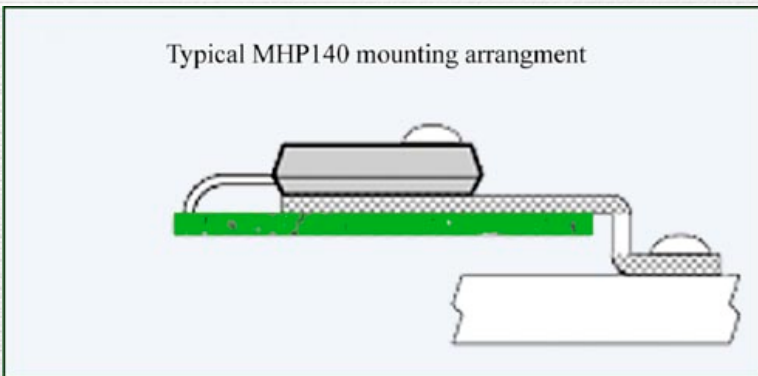
Frequency Characteristics

Impedance (Ω)



Mounting Recommendations

Sufficient torque must be used to obtain optimum heat transfer.



Ordering Information

| | | |
|---|--|--|
| <div style="border: 1px solid black; padding: 2px; display: inline-block;">MHP 140</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">500</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">F</div> |
| <p>Model</p> <p>Resistance Code</p> <p>0.1Ω : 0R100</p> <p>50 Ω : 500 First two digits significant, last digit: number of trailing zeros</p> | | <p>Tolerance</p> <p>J = 5% Tol</p> <p>F = 1% Tol</p> |