

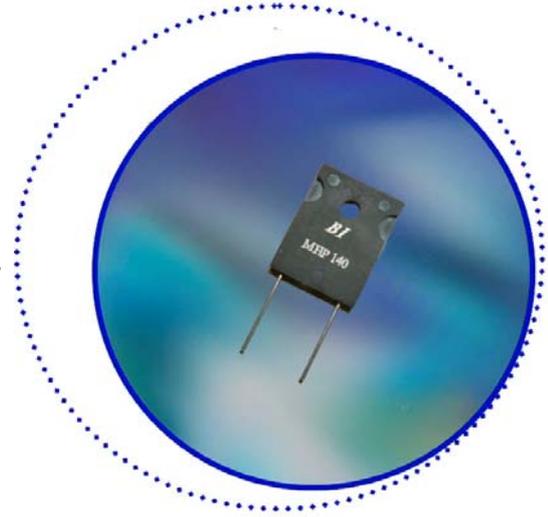
## 140W TO-247 HIGH POWER RESISTORS

### Features

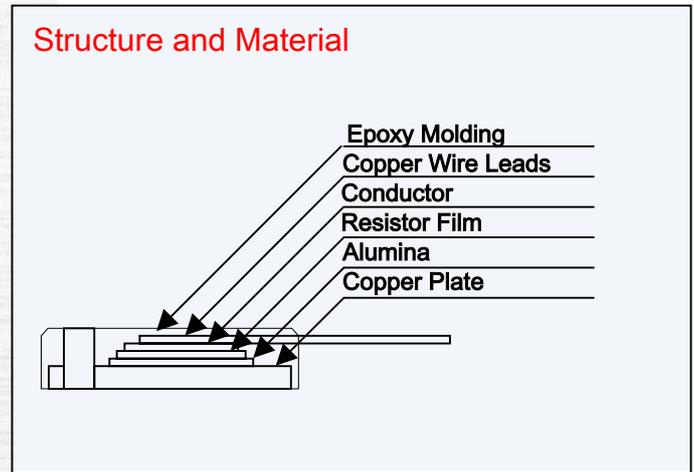
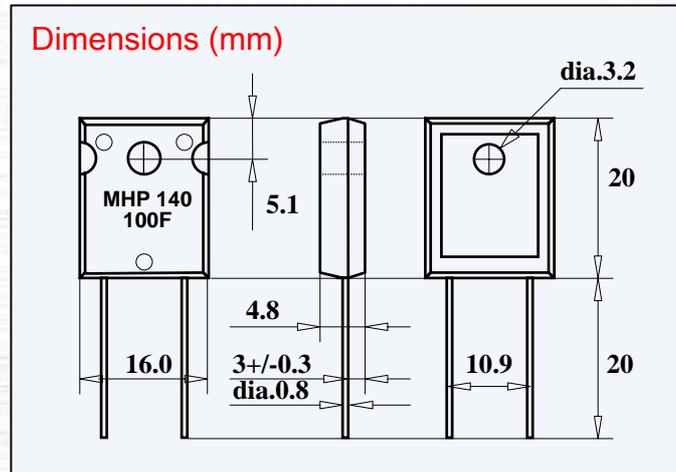
- Non-inductive, high power resistor.
- Thermally enhanced Industry standard TO-247 package.
- Extremely Low thermal resistance, 0.9 °C/W resistor hot spot to metal tab.
- Complete thermal flow design available for easy implementation.
- Small thin package for high density PCB installation.
- RoHS compliant.

### 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



| 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                       | $\Delta R$ +/- (1.0 % + 0.05 Ω)  |            |           | 25°C, 90 min. ON, 30 min. OFF, 1000 hours. |
| Humidity                        | $\Delta R$ +/- (1.0 % + 0.05 Ω)  |            |           | 40°C, 90-95% RH, DC 0.1W, 1000 hours.      |
| Temperature Cycle               | $\Delta R$ +/- (0.25 % + 0.05 Ω) |            |           | -55°C, 30 min., +155°C 30min., 5cycles.    |
| Soldering Heat (Max)            | $\Delta R$ +/- (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                       | $\Delta R$ +/- (0.25 % + 0.05 Ω) |            |           |  |

Specifications subject to change without notice.

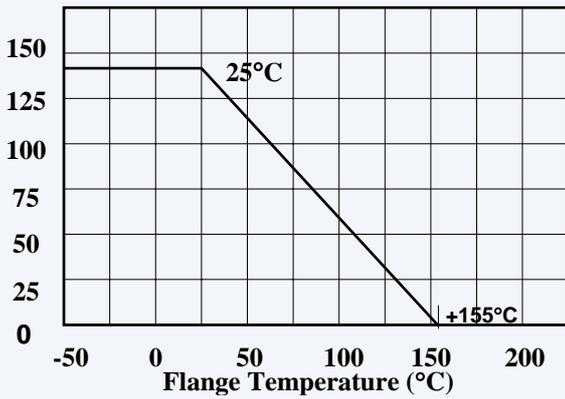
#### Notes:

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)



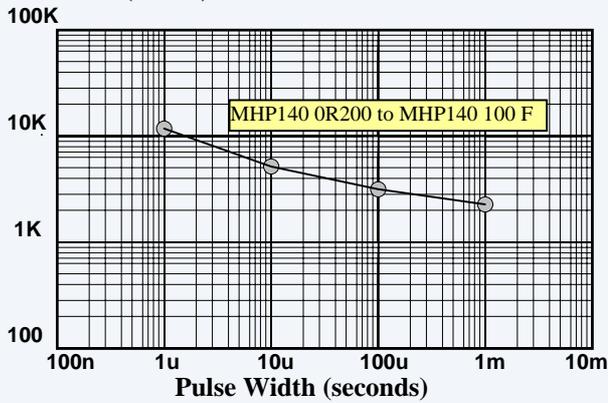
**Temperature Rise**

140



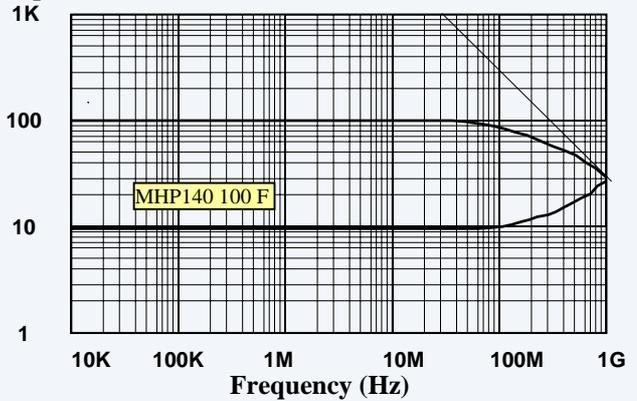
**Pulse Energy Durability**

Pulse Peak (Watts)



**Frequency Characteristics**

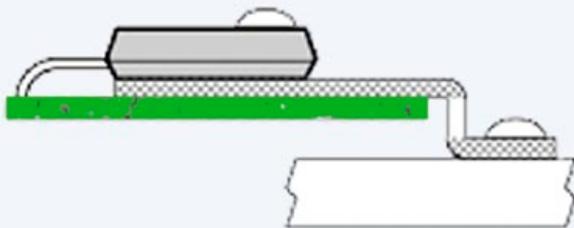
Impedance (Ω)



**Mounting Recommendations**

Sufficient torque must be used to obtain optimum heat transfer.

Typical MHP140 mounting arrangement



**Ordering Information**

|         |   |            |  |
|---------|---|------------|--|
| MHP 140 | 500   | F          |  |
| Model   | Resistance Code   | Tolerance  |  |
|         | 0.1Ω : 0R100  | J = 5% Tol |  |
|         | 50 Ω : 500 First two digits significant, last digit: number of trailing zeros | F = 1% Tol |  |