20W TO220 High Power Resistors

MHP 20

- Non-inductive.
- Thermally enhanced Industry standard TO220 package.
- RoHS compliant.
- Low thermal resistance, 5.9 °C/W resistor hot spot to metal tab.
- Complete thermal flow design available for easy implementation.
- Superior vibration durability.
- Small thin package for high density PCB installation.

Applications

- High frequency circuits and high speed pulse designs.
- Switch mode power supplies.
- Motor control and drive circuits.
- Automotive.
- Industrial computing and measurement systems.



Specifications

| Items | Specification | | | Conditions |
|--------------------------------------|------------------------|------------|-----------|--|
| Power Rating | 20 Watts | | | -55 to 25 °C flange temperature |
| Power Rating | 1.0 Watts | | | Free air. |
| Thermal Resistance | 5.9 °C/W | | | Hot spot to Tab |
| Resistance Range | 0.01-0.09 Ω | 0.1-9.1 Ω | 10-220 Ω | Up to 51 K Ω also available |
| Nominal Resistance Series | E6 | E24 | E24 | 2.5 Ω and 5.0 Ω also available |
| TCR | 250 ppm/°C | 100 ppm/°C | 50 ppm/°C | -55 to +155 °C |
| Tolerance | +/- 5% (J) | 5% (J) | +/-1% (F) | |
| Operation Temp. Range | -55°C to+155°C | | | |
| Max. Operating Volt. | 500V or √ P.R | | | |
| Dielectric Withstanding Volt- age | 2000 Volts AC | | | 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 0.1 W, 1000 hours. |
| Temp. Cycle | ΔR +/- (0.25 %+0.05 Ω) | | | -55 °C,30 min.,+155 °C,30 min., 5 cycles |
| Soldering Heat | ΔR +/- (0.1 %+0.05 Ω) | | | 250+/-5 °C, 3 seconds, |
| Solder ability | Over 95% of surface | | | 230+/-5 °C, 3 seconds. |
| Insulation Resistance | Over 1,000 MΩ | | | Between terminals and tab. |
| Vibration | ΔR +/- (0.25 %+0.05 Ω) | | | |

General Note

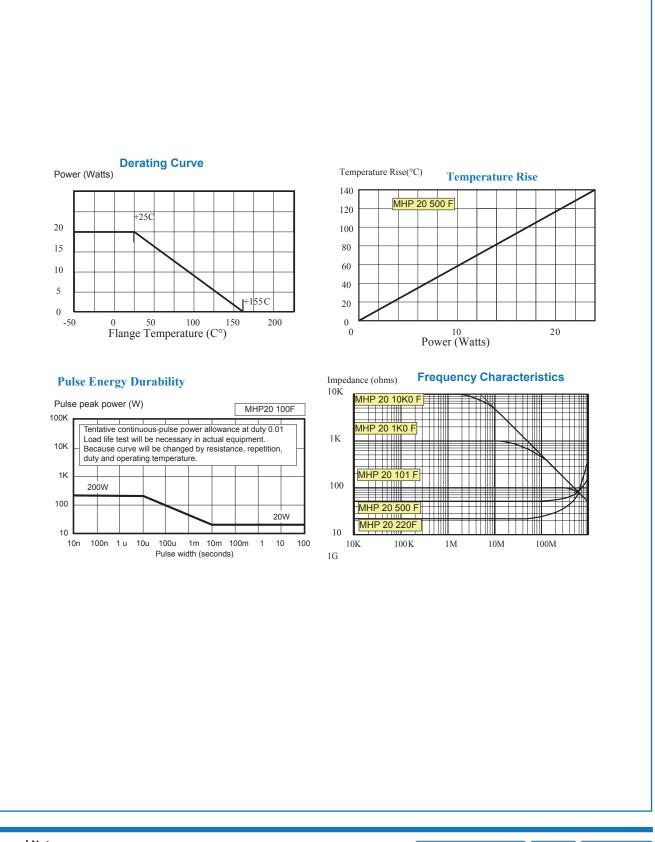
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Electrical Performance



General Note

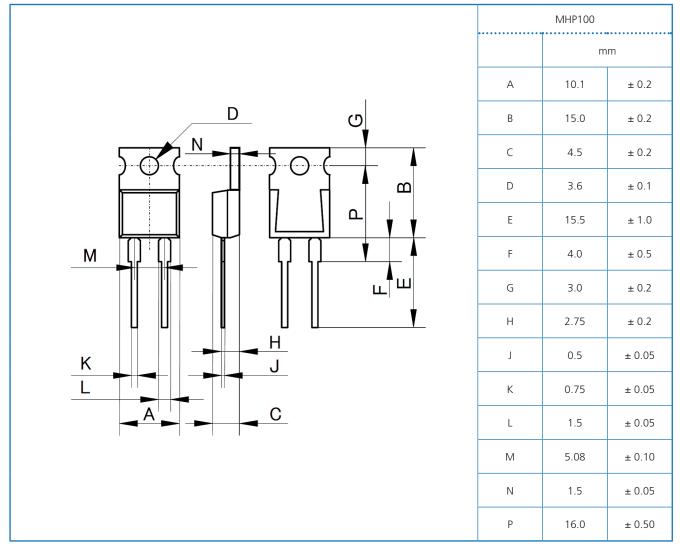
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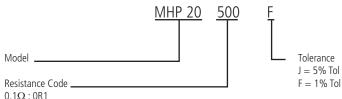
Notes:

- 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 5.9°C/W and a maximum resistor temperature of 155°C.

4. Current rating: 25A maximum.

5. Surface mount package also available, please call factory.

Ordering Information



 $0.1\Omega:\text{OR1}$

50 Ω : 500 First two digits significant, last digit: number of trailing zeros

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