

20W TO220

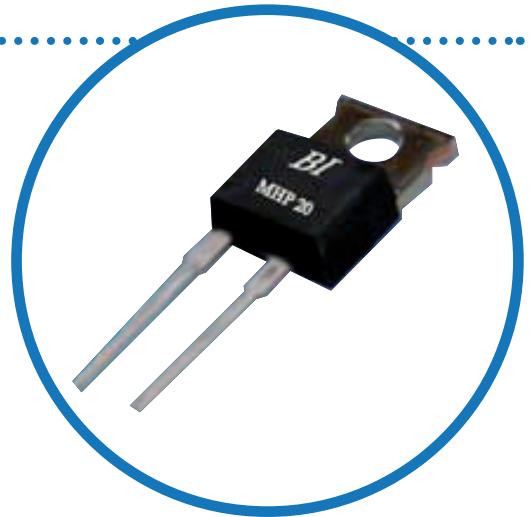
High Power Resistors

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

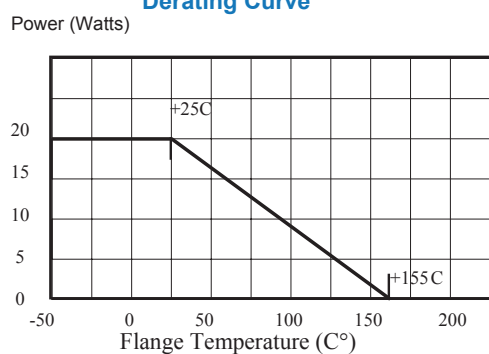
Items	Specification			Conditions
Power Rating	20 Watts			-55 to 25 °C flange temperature
Power Rating	1.0 Watts			Free air.
Thermal Resistance	5.9 °C/W			Hot spot to Tab
Resistance Range	0.01-0.09 Ω	0.1-9.1 Ω	10-220 Ω	Up to 51 KΩ also available
Nominal Resistance Series	E6	E24	E24	2.5 Ω and 5.0 Ω also 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 Voltage	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

TT electronics reserves the right to make changes in product specification without notice or liability.
All information is subject to TT electronics' own data and is considered accurate at time of going to print.

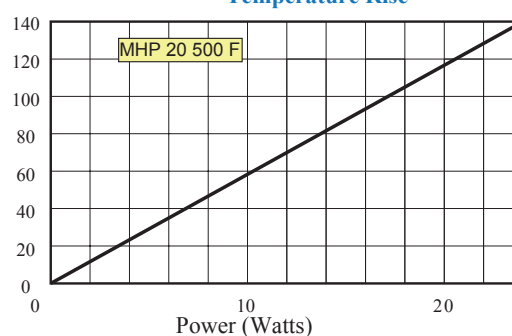
Electrical Performance

Derating Curve

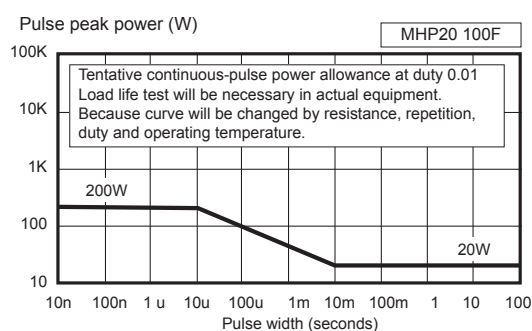


Temperature Rise(°C)

Temperature Rise

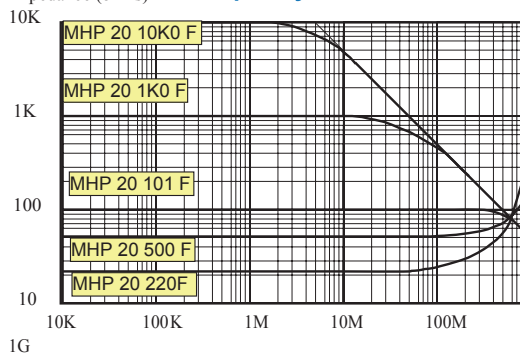


Pulse Energy Durability



Impedance (ohms)

Frequency Characteristics

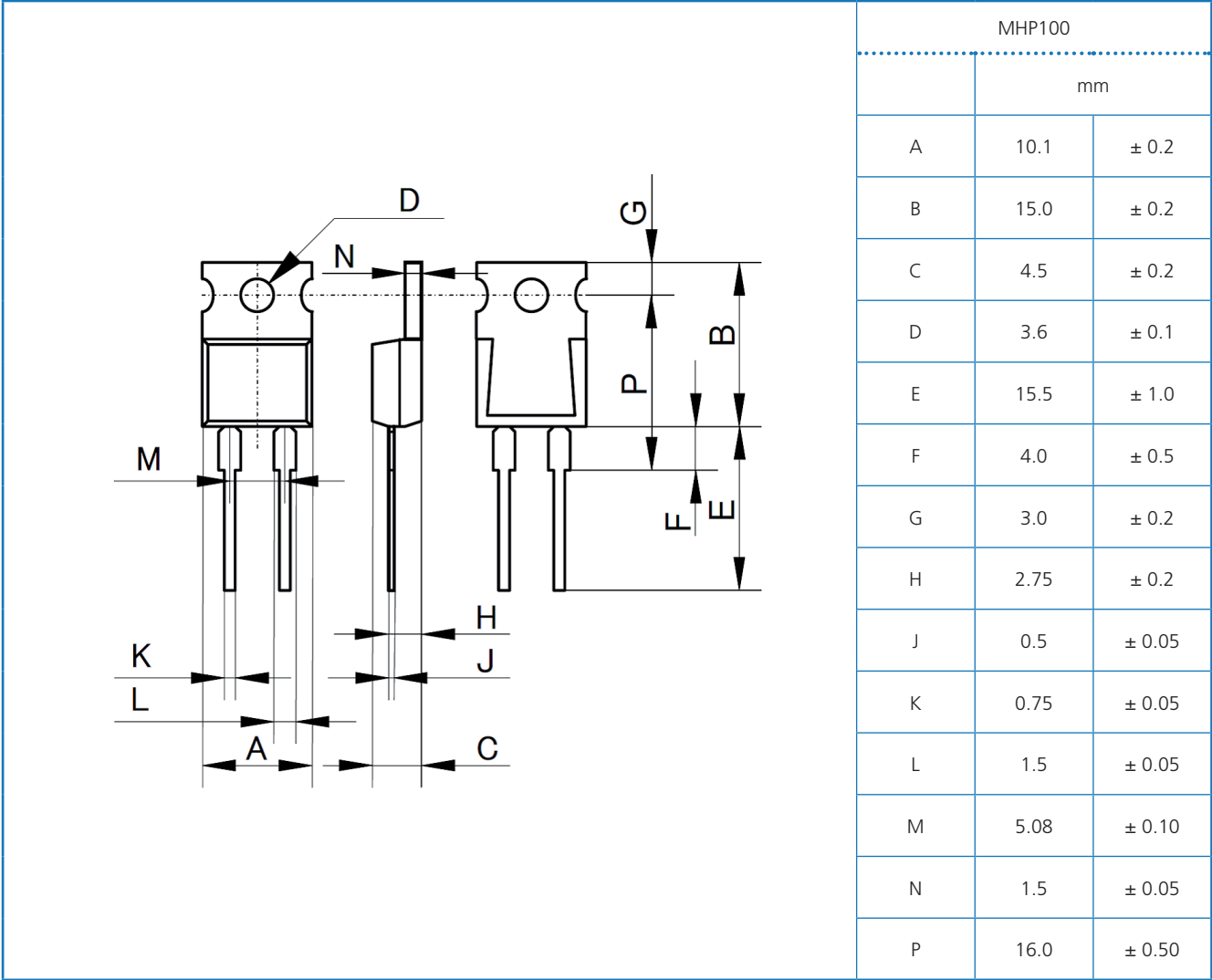


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Electrical Performance



- 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

MHP 20

500

F

Model

Resistance Code

0.1Ω : 0R1

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

Tolerance
J = 5% Tol
F = 1% Tol