20W TO-220 HIGH POWER RESISTORS



Features

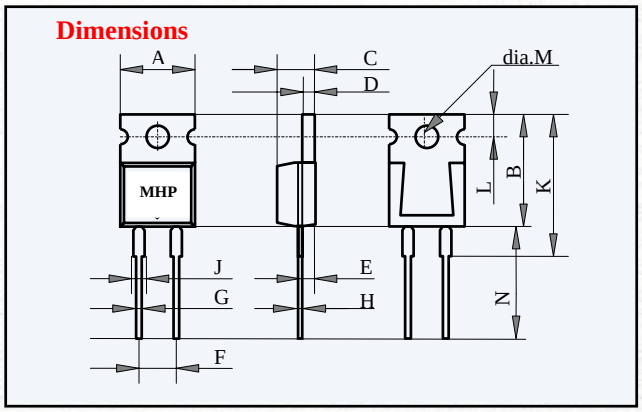
- Non-inductive.
- Thermally enhanced Industry standard TO220 package.
- RoHS compliant.
- Low thermal resistance, 5.9 °C/W resistor hot spot to metal tab.
- Complete thermal flow design available for easy implementation.
- Superior vibration durability.
- Small thin package for high density PCB installation.

Applications

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

Specification

Dimensions



A	B	C	D	E	F	G	H	J	K	L	M	N
10.6	15.0	4.5	1.5	2.7	5.08	0.75	0.5	1.5	19.0	2.7	3.6	15.0

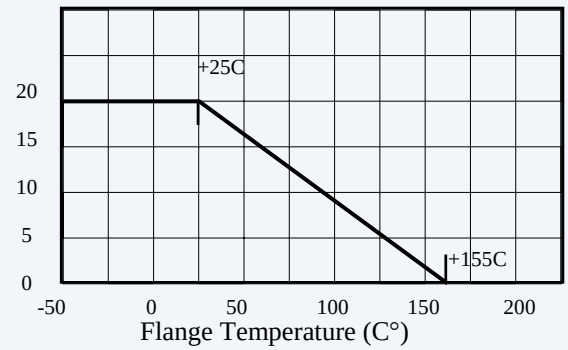
Specification

Item	Specifications			Test Conditions
Power Rating	20 Watts			-55 to 25 °C flange temperature
Power Rating	2.25 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	E12	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 $\sqrt{P.R}$			
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 0.1W, 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)			

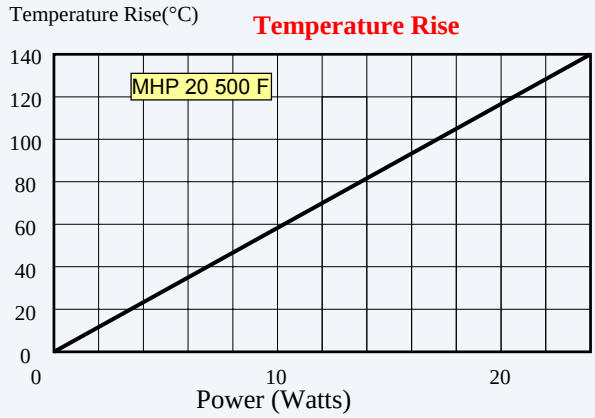
.

Specifications subject to change without notice

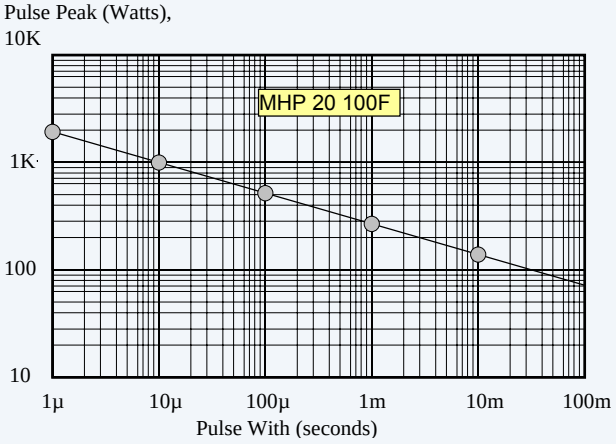
Derating Curve



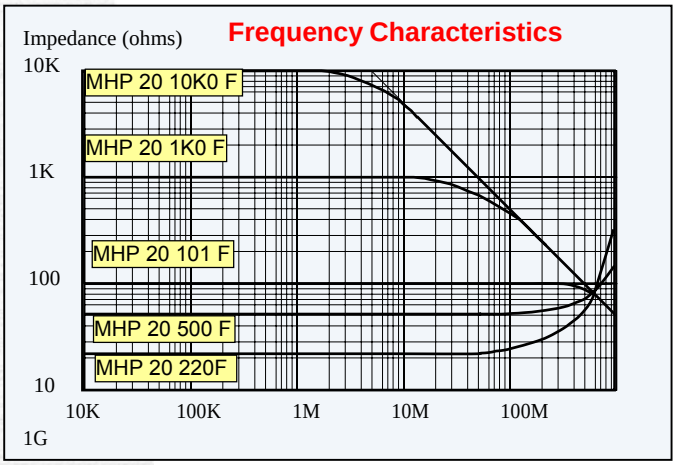
Temperature Rise



Pulse Energy Durability



Frequency Characteristics



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		**Tolerance**
0.1Ω : 0R100		J = 5% Tol
50 Ω : 500	First two digits significant, last digit: number of trailing zeros	F = 1% Tol