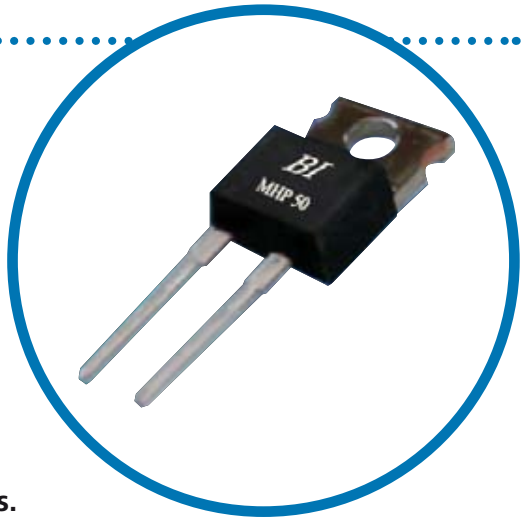
50W TO220
High Power Resistors

MHP 50



- **Non-inductive, thin film technology.**
- **Thermally enhanced Industry standard TO220 package.**
- **RoHS compliant.**
- **Low thermal resistance, 2.3 °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 wide band / linear amplifiers.**
- **Switch mode and industrial RF power sources.**
- **AC motor control, electronic load and drive circuits.**
- **Automotive.**
- **Industrial PC modules (IPM) and measurement systems.**

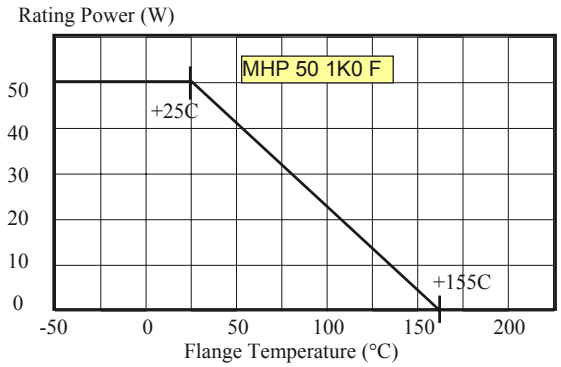
Specifications

Items	Specification			Conditions
Power Rating	50 Watts			@ Tab Temp < 25°C
Power Rating	1 Watts			Free air.
Thermal Resistance	2.3°C/W			From hot spot to tab.
Resistance Range	0.01-0.09 Ω	0.1-9.1 Ω	10-220 Ω	Extended resistance range to 51KΩ available
Nominal Resistance Series	E6	E24	E24	Additional 2.0Ω and 5.0 Ω also avail available
TCR	250 ppm/°C	100 ppm/°C	50 ppm/°C	For -55 to +155°C
Tolerance	+/-5%	+/- 5% and 1%	+/- 1%	
Operating Temp. Range	-55 to +155 °C			
Max. Operating Voltage.	500V or √ P.R			
Dielectric Withstand Voltage	2000 Volts DC			60 seconds. between terminals and flange
Load Life	ΔR +/- (1.0 %+0.05 Ω)			25°C, 90 min. ON, 30 min.OFF, 1000 hours.
Temp. Cycle	ΔR +/- (0.25 %+0.05 Ω)			-55 °C,30 min.,+155 °C,30 min., 5 cycles
Humidity	ΔR +/- (1.0 %+0.05 Ω)			40°C, 90-95% RH, DC 0.1W, 1000 hours.
Soldering Heat (Max)	ΔR +/- (1.0 %+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 % Ω)			

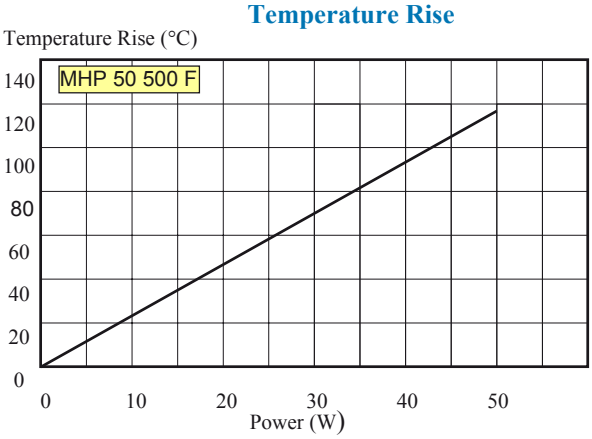
Note:
1. For resistances from 220 to 51k Ω the power rating shall be restricted to 30W.

Electrical Performance

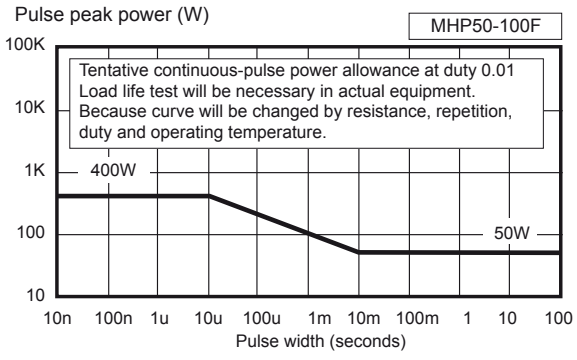
Derating



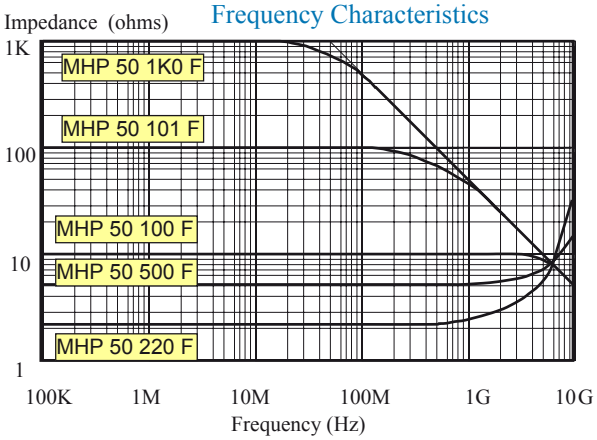
Temperature Rise



Pulse Energy Durability



Frequency Characteristics



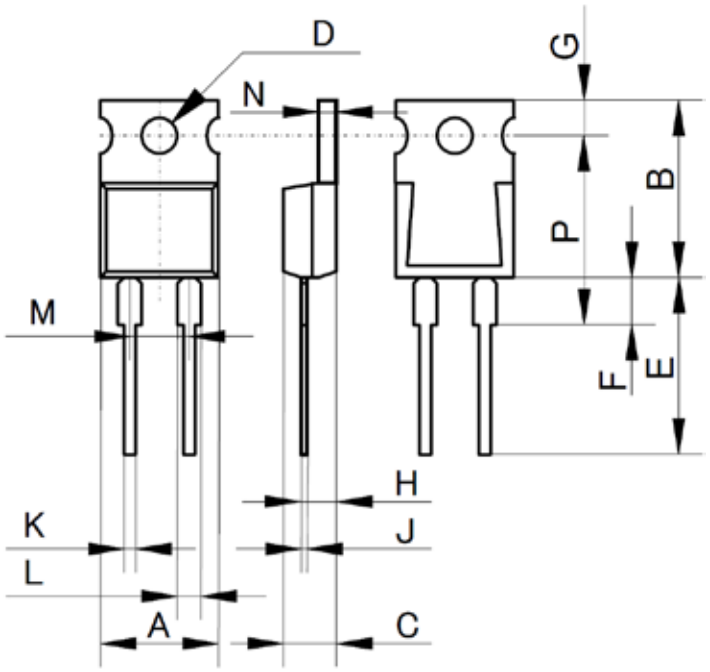
General Note

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.

50W TO220 High Power Resistors

MHP 50

Dimensions



	MHP50	
	mm	
A	10.1	± 0.2
B	15.0	± 0.2
C	4.5	± 0.2
D	3.6	± 0.1
E	15.5	±1.0
F	4.0	±0.5
G	3.0	±0.2
H	2.75	± 0.2
J	0.5	± 0.05
K	0.75	± 0.05
L	1.5	±0.05
M	5.08	±0.10
N	1.5	± 0.05
P	16.0	± 0.50

Ordering Information

MHP 50 500 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

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.