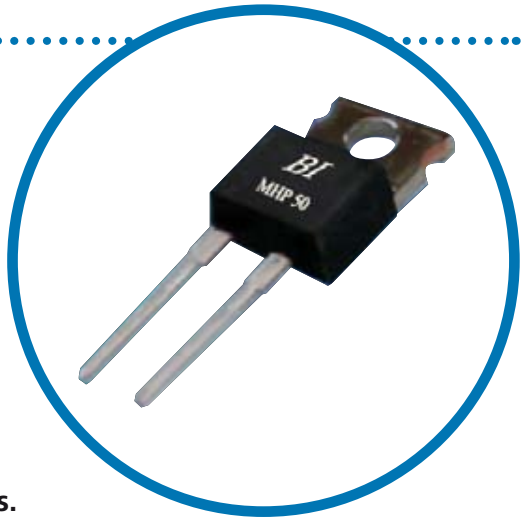
50W TO220
High Power Resistors

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.

General Note
TT electronics reserves the right to make changes in product specification without notice or liability.
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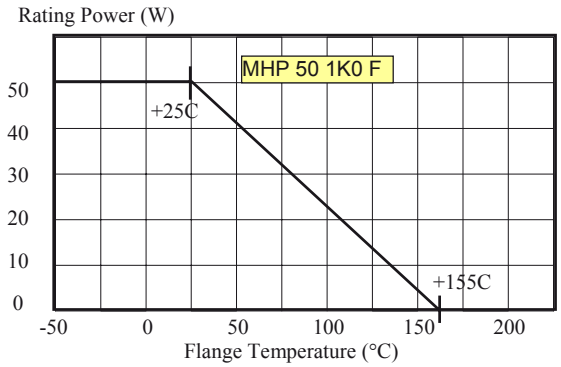
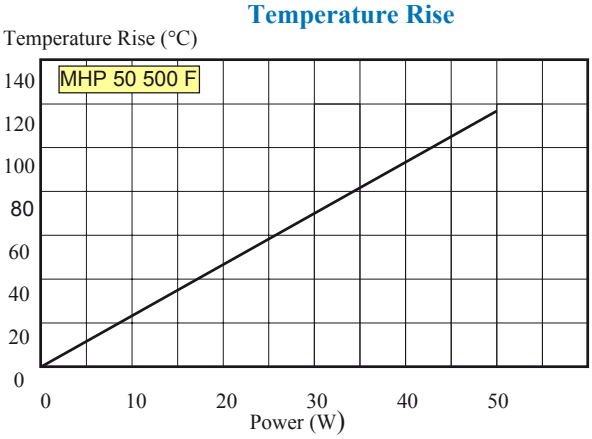
Electrical Performance

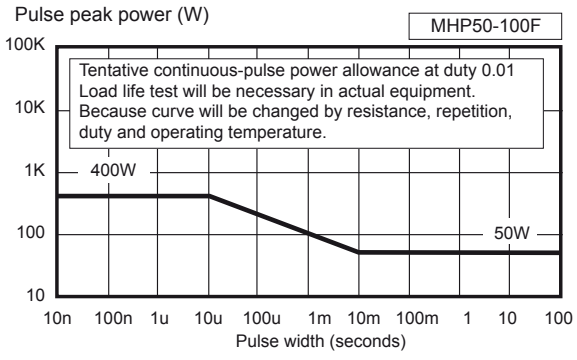
Derating



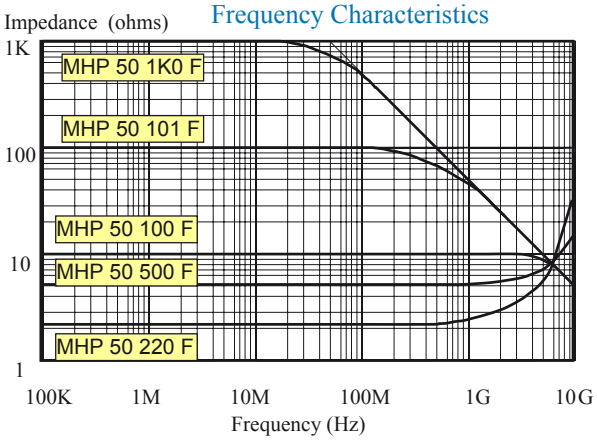
Temperature Rise



Pulse Energy Durability



Frequency Characteristics



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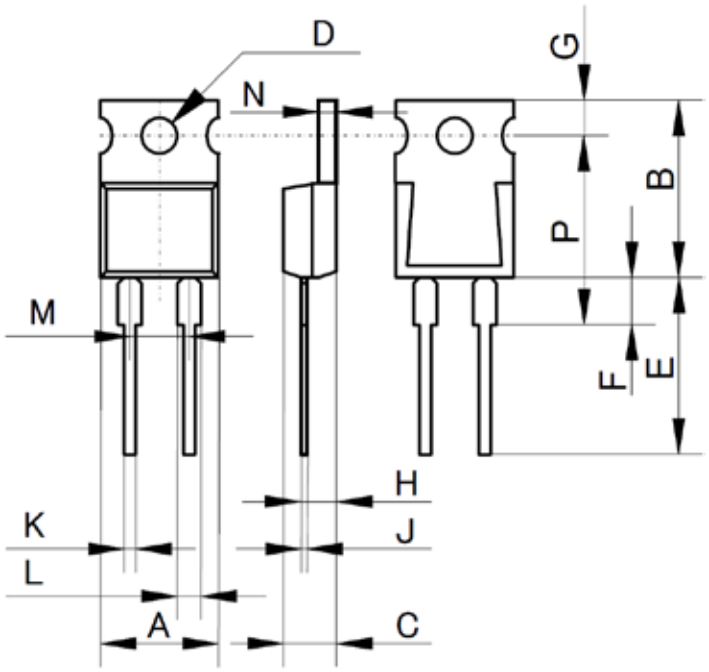
Dimensions



	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

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