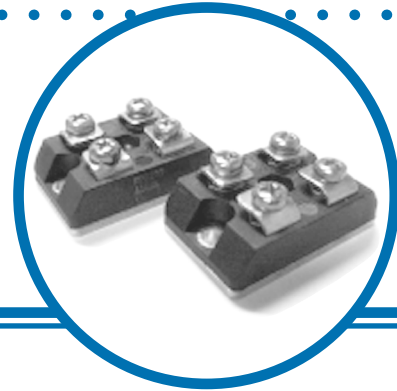


High Power SOT227 Resistors

MHP150 to MHP600 Series

- Pb-free RoHS compliant SOT227 package
- Power rating from 150W to 600W
- High impulse power capability
- Non-inductive film technology
- Superior vibration handling
- UL94V0



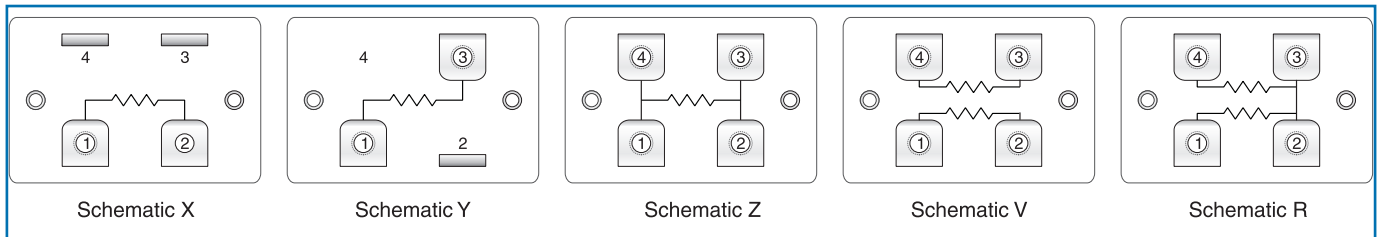
Electrical Data

	MHP150LF	MHP200LF	MHP250LF	MHP300LF	MHP550LF	MHP600LF
Power Rating ¹	150W	200W	250W	300W	550W	600W
Available Schematics	V, R	X, Y, Z	V, R	X, Y, Z	V, R	X, Y, Z
Resistance Range	0.1Ω to 1KΩ ²		0.1Ω to 1KΩ ²		50Ω to 1KΩ ²	
Thermal Resistance R _{thj-c}	0.35°C/W		0.23°C		0.11°C/W	
Weight	20g		30g		30g	
Operating Temperature Range	-55°C to +120°C				-55°C to +155°C	
Working Voltage	$\sqrt{P \times R}$ not to exceed 1.0KV					
Nominal Values	E24 (2.0 and 5.0 also available)					
Resistance Tolerance	±1%, ±5%					
TCR	R ≤ 1.0Ω		±250ppm/°C			
	R ≥ 1.0Ω		±100ppm/°C			

¹ Power rating is with base temperature between -55°C and +25°C.

² Contact factory for values greater than 1.0KΩ.

Schematic Data



General Note

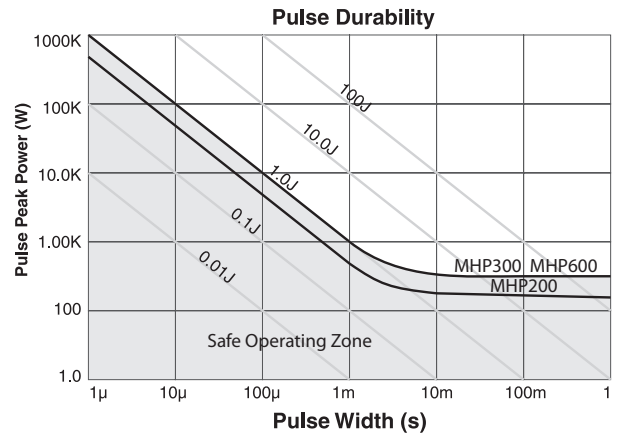
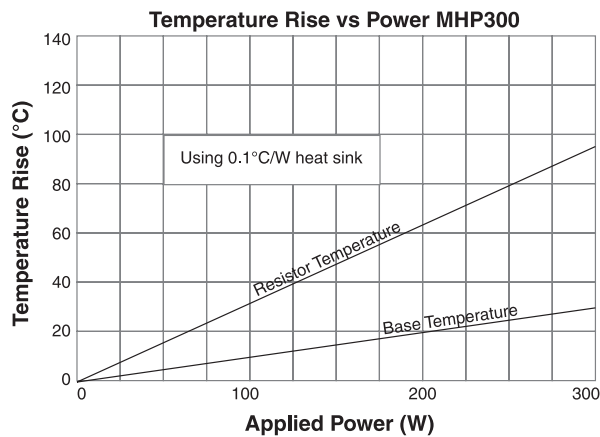
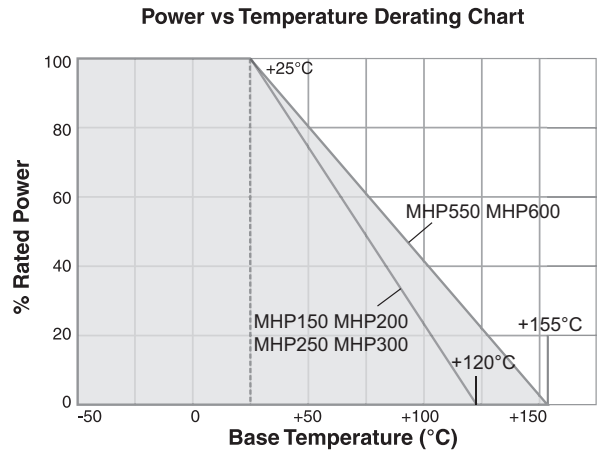
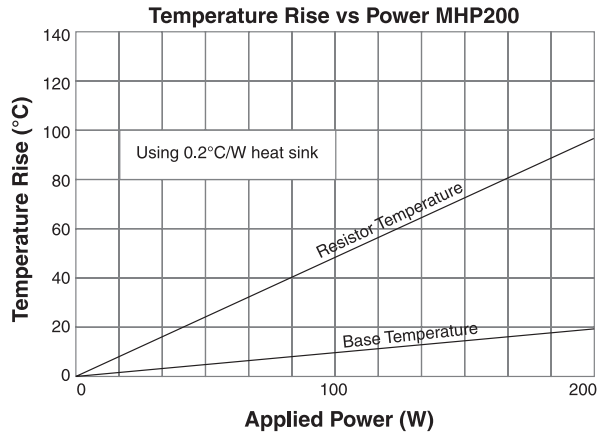
IRC reserves the right to make changes in product specification without notice or liability. All information is subject to IRC's own data and is considered accurate at time of going to print.

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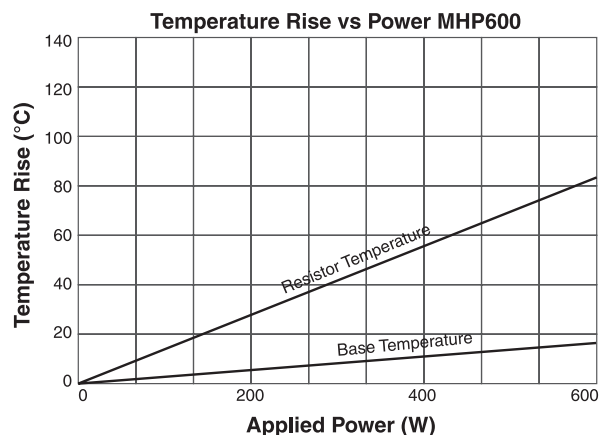
High Power SOT227 Resistors



Power Performance Data



Note: The above graph for the Safe Operating Zone is for a single pulse or a low duty cycle pulse and the average pulse power must not exceed the power rating of the resistor.



High Power SOT227 Resistors

Environmental Data

Environmental Test	Test Method	Specification
Load Life	1000 hours 25°C 90 minutes on, 30 minutes off,	$\Delta R \pm 1.0\% + 0.05\Omega$
Humidity	1000 hours, 70°C, 90 to 95% RH, 0.1W DC	$\Delta R \pm 1.0\% + 0.05\Omega$
Temperature Cycle	20 cycles, -55° 30 minutes, +120°C 30 minutes high	$\Delta R \pm 1.0\% + 0.05\Omega$
Short Time Overload	2.5 X Rated Power, 2.5 seconds, 25°C with Heat Sink	$\Delta R \pm 0.25\% + 0.05\Omega$
Vibration	IEC60068-2-6	$\Delta R \pm 0.25\% + 0.05\Omega$
Withstanding Voltage	60 seconds	4000VAC
Insulation Resistance	Between terminals and flange	>1000 Meg Ω

Physical Data

The diagram illustrates the physical dimensions and internal structure of the High Power SOT227 resistor. It includes a top view, a side view, and a cut-away view. Dimensions A through J are defined as follows:

- A: Overall length
- B: Overall height
- C: Case height
- D: Case thickness
- E: Resistor height
- F: Terminal width
- G: Terminal length
- H: Terminal height
- J: M4 screw depth (10mm)

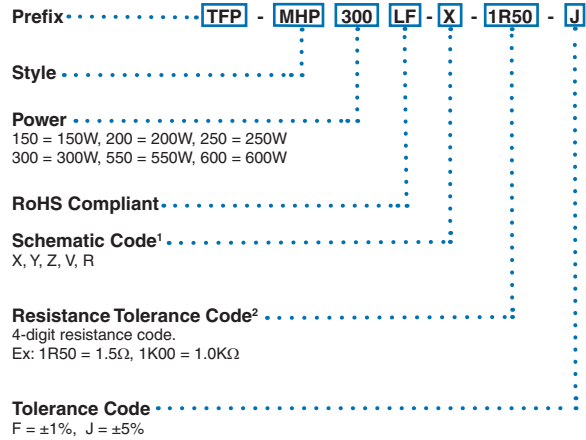
The cut-away view shows the internal components: Case, Filling, Resistor, Terminal, Conductor, Al₂O₃ or AlN Substrate, and Ni plated Cu base. A note specifies: "Note 1: MHP150 and MHP200 do not have a Cu base."

Dimension	Length (mm)
A	38.0 ±0.2
B	25.0 ±0.2
C	11.8 ±0.4
D	4.2 ±0.1
E	13.0 ±0.3
F	15.0 ±0.4
G	30.0 ±0.1
H	10.0 ±0.2
J	M4 screw (10mm depth)

High Power SOT227 Resistors



Ordering Data



Packaging
Parts are only available in bulk packaging.

Note 1. Schematics X, Y, and Z are only available for the 200, 300, and 600 versions.
Schematics V and R are only available on the 150, 250, and 550 versions.

Note 2. For Schematics V and R, resistance values are the same.