MODEL BHPR SERIES

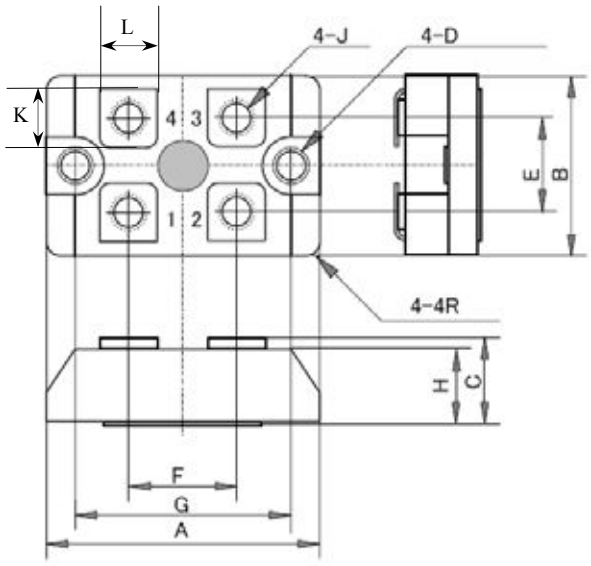
OBSOLETE

BHPR Series (Combined BI & IRC datasheets)

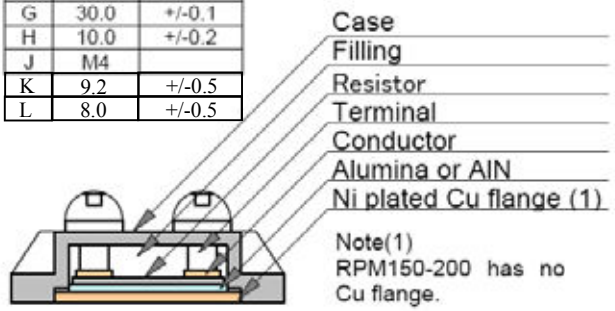
- **Non-Inductive.**
- **Rated upto 600W depending on resistor configuration.**
- **Small TO-227 package, very low thermal resistance.**
- **Superior vibration durability, with M4 screw terminals.**
- **RoHS Compliant.**

- **High power snubber resistors in power supplies.**
- **High frequency and pulse handling circuits.**
- **Pulse generator load resistors.**
- **High power crossover circuits in audio speaker systems.**

Dimensions

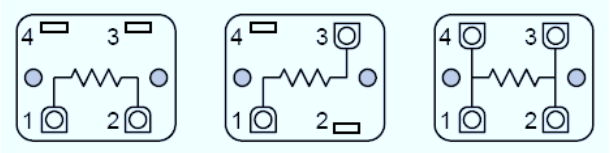


	mm	+/- mm
A	38.0	+/-0.2
B	25.0	+/-0.2
C	11.8	+/-0.5
D	4.2	+/-0.1
E	13.0	+/-0.3
F	15.0	+/-0.4
G	30.0	+/-0.1
H	10.0	+/-0.2
J	M4	
K	9.2	+/-0.5
L	8.0	+/-0.5



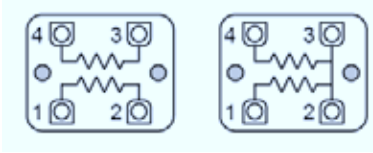
Schematics

BHPR 200, 300 & 600



Circuit X Circuit Y Circuit Z

BHPR 150, 250 & 550



Circuit X Circuit Y

General Note

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BHPR Series OBSOLETE

Specification

Specification Items	BHPR 150	BHPR 200	Test Conditions
Power Rating	150 Watts	200 Watts	With Heatsink, 0.9°C / W.
Resistor Schematic	Dual	Single	
Resistance Range	0.1Ω - 51KΩ	0.1Ω - 51KΩ	
Nominal Resistance	Any	Any	Within range and tolerance
TCR	±100ppm/°C	±100ppm/°C	For -55 to +155°C
Tolerance	±1%, ±5%	±1%, ±5%	
Operating Temp. Range	-55 to +155°C	-55 to +155°C	
Max Applied Voltage	E = √P*R		
Withstand Voltage	2500 VDC		60 Seconds
Load Life	ΔR ±(1.0% +0.05Ω)		25°C, 90 min On, 30 min Off, 1000 Hours
Humidity	ΔR ±(1.0% +0.05Ω)		70°C, 90 ~ 95%RH, DC 0.1W, 1000 Hours
Temperature Cycle	ΔR ±(1.0% +0.05Ω)		-55°C 30 min, +120°C 30 min, 20 cycles
Short Term Overload	ΔR ±(0.25% +0.05 Ω)		Rated Power * 2.5, 2.5 seconds, with Heatsink
Solder Heat	ΔR ±(0.25% +0.05Ω)		350°C ±5°C, 3 seconds
Insulation Resistance	Over 1000 MegΩ		Between Terminals and Flange.
Vibration	ΔR ±(0.25% +0.05Ω)		

Specification Items	BHPR 250	BHPR 300	Test Conditions
Power Rating	250 Watts	300 Watts	At Flange Temp –55 to +25°C
Resistor Schematic	Dual	Single	
Resistance Range	0.1Ω - 51KΩ	0.1Ω - 51KΩ	
Nominal Resistance	Any	Any	Within range and tolerance
TCR	±100ppm/°C	±100ppm/°C	For -55 to +155°C
Tolerance	±1%, ±5%	±1%, ±5%	
Operating Temp. Range	-55 to +155°C	-55 to +155 °C	
Max Applied Voltage	E = √P*R		
Withstand Voltage	2500 VDC		60 Seconds
Load Life	ΔR ±(1.0% +0.05Ω)		25°C, 90 min On, 30 min Off, 1000 Hours
Humidity	ΔR ±(1.0% +0.05Ω)		70°C, 90 ~ 95%RH, DC 0.1W, 1000 Hours
Temperature Cycle	ΔR ±(1.0% +0.05Ω)		-55°C 30 min, +120°C 30 min, 20 cycles
Short Term Overload	ΔR ±(0.25% +0.05Ω)		Rated Power * 2.5, 2.5 seconds, with Heatsink
Solder Heat	ΔR ±(0.25% +0.05Ω)		350°C ±5°C, 3 seconds
Insulation Resistance	Over 1000 MegΩ		Between Terminals and Flange.
Vibration	ΔR ±(0.25% +0.05Ω)		

BHPR Series OBSOLETE

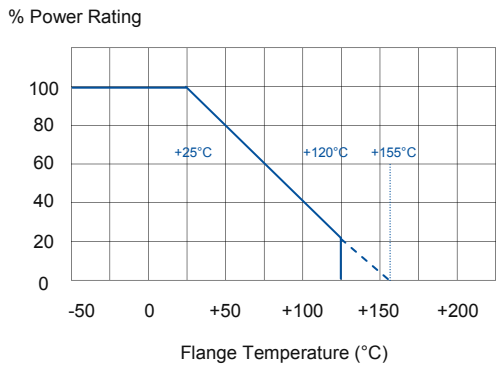
Specification (cont.)

Specification Items	BHPR 550	BHPR 600	Test Conditions
Power Rating	600 Watts	600 Watts	With Heatsink, 0.9°C / W.
Resistor Schematic	Dual	Single	
Resistance Range	50Ω - 1KΩ	50Ω - 1KΩ	
Nominal Resistance	Any	Any	Within range and tolerance
TCR	±100ppm/°C	±100ppm/°C	For -55 to +155°C
Tolerance	±1%, ±5%	±1%, ±5%	
Operating Temp. Range	-55 to +155°C	-55 to +155°C	
Max Applied Voltage	E = √P*R		
Withstand Voltage	2500 VDC		60 Seconds
Load Life	ΔR ±(1.0% +0.05Ω)		25°C, 90 min On, 30 min Off, 1000 Hours
Humidity	ΔR ±(1.0% +0.05Ω)		70°C, 90 ~ 95%RH, DC 0.1W, 1000 Hours
Temperature Cycle	ΔR ±(1.0% +0.05Ω)		-55°C 30 min, +120°C 30 min, 20 cycles
Short Term Overload	ΔR ±(0.25% +0.05Ω)		Rated Power * 2.5, 2.5 seconds, with Heatsink
Solder Heat	ΔR ±(0.25% +0.05Ω)		350°C ±5°C, 3 seconds
Insulation Resistance	Over 1000 MegΩ		Between Terminals and Flange.
Vibration	ΔR ±(0.25% +0.05Ω)		

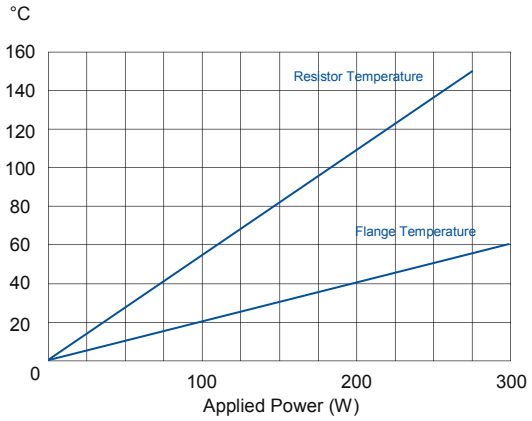
BHPR Series **OBSOLETE**

Performance

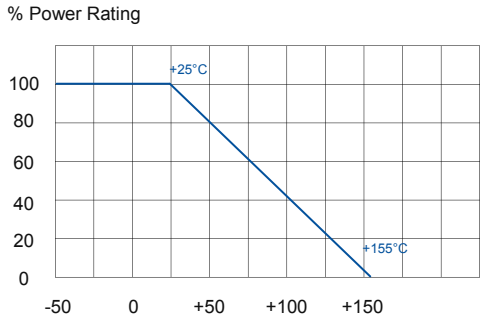
Derating Curve, BHPR 150, 200, 250 & 300



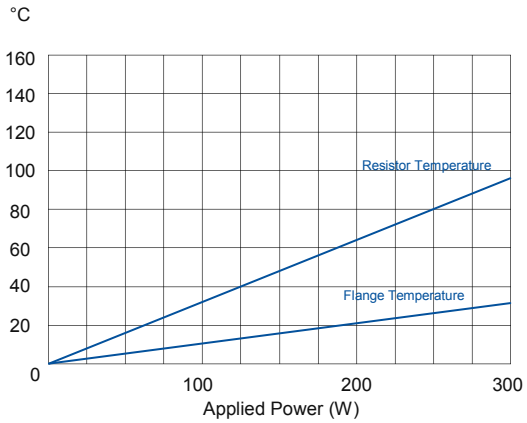
Temperature Rise, BHPR 200 on 0.2°C / W Heatsink



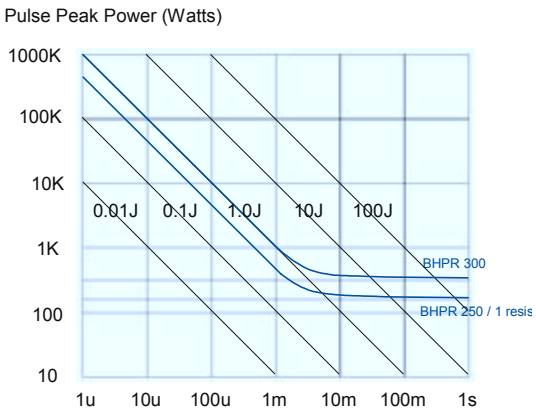
Derating Curve, BHPR 550 & 600



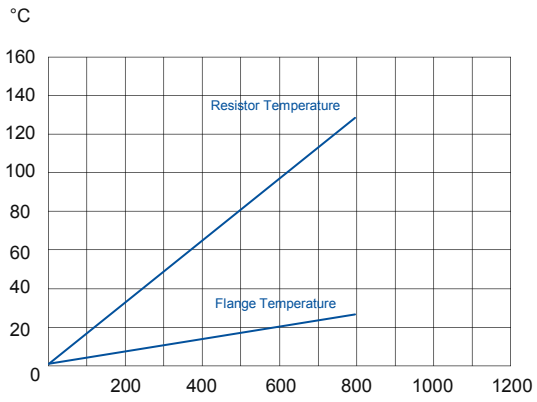
Temperature Rise, BHPR 300 on 0.1°C / W Heatsink



Pulse Operation Durability



Temperature Rise, BHPR 600



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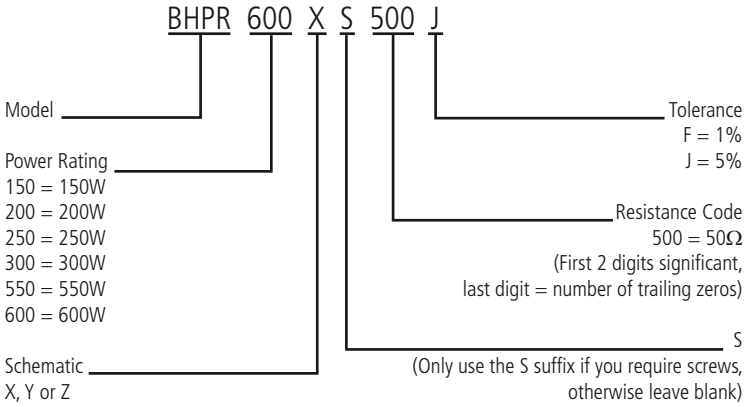
Ordering Information



High Power SOT227 Resistors OBSOLETE

MHP150 to MHP600 Series

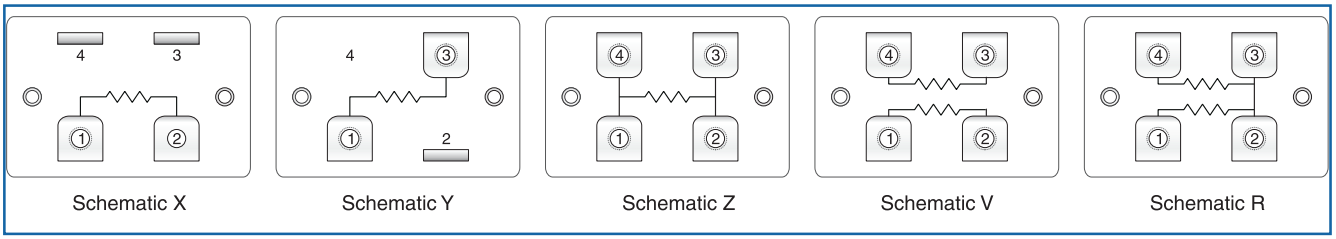
- **Pb-free RoHS compliant SOT227 package**
- **Power rating from 150W to 600W**
- **High impulse power capability**
- **Non-inductive film technology**
- **Superior vibration handling**
- **UL94V0**

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 +155C	
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



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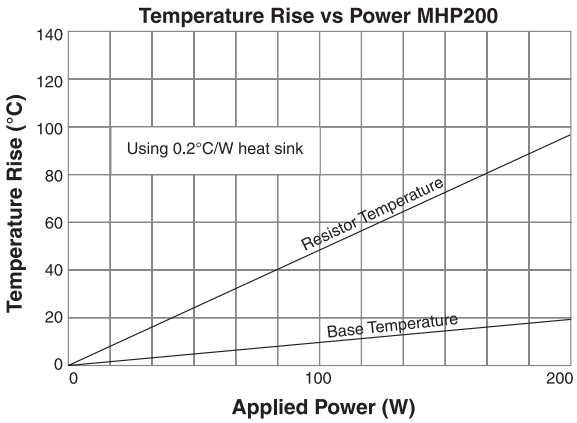
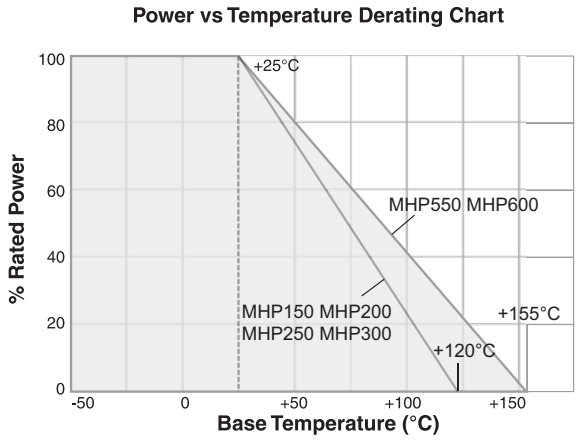
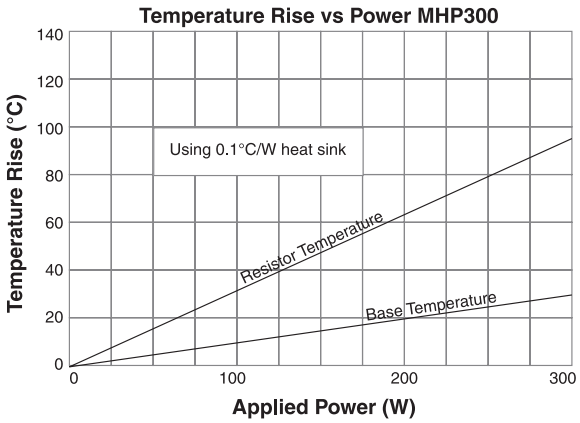
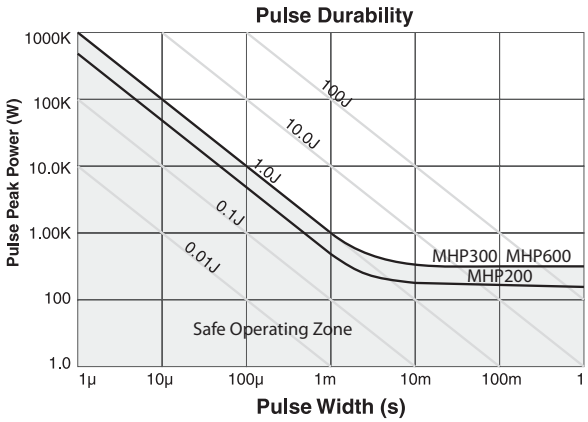
Power Performance Data

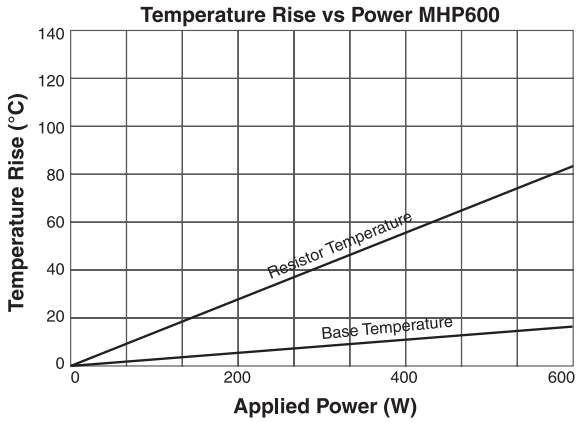








Note: The above graph for the Safe Operating Zone is for a single pulse or a low duty cycle pulse and the average pulse power must not exceed the power rating of the resistor.



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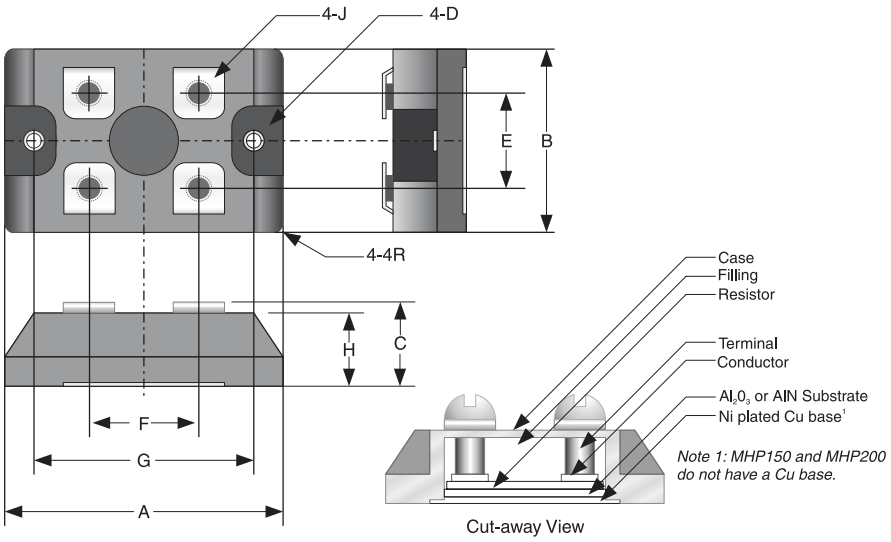
Environmental Data

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

Physical Data



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)*

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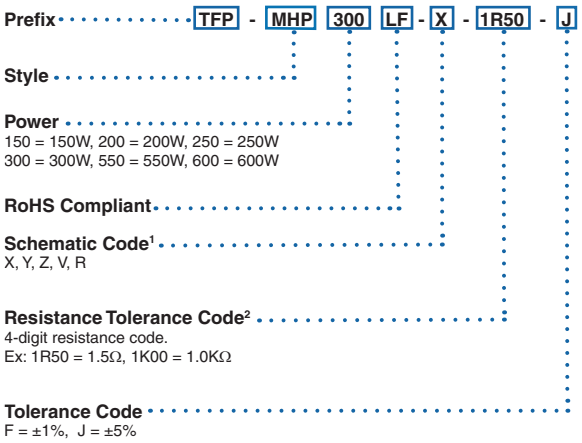
Ordering Data



Packaging
Parts are only available in bulk packaging.

Note 1. Schematics X, Y, nad 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.