



Features

- Formerly a Riedon™ product
- Resistances from 0.001 to 500 Ω
- Power rating to 2500 W
- TCR to ± 15 PPM/ $^{\circ}\text{C}$
- Load stability to 0.1 %
- Very low inductance (<50 nH)
- RoHS compliant*

Applications

- Current sensing
- Power management
- Industrial power control
- Energy storage

BRF Series – High Precision Power Foil Resistor

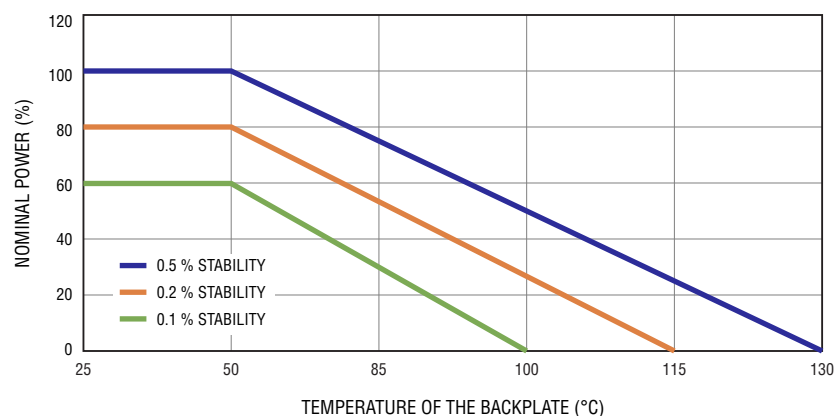
Electrical Characteristics

Bourns Model	Power Rating		Resistance Range	Tolerance (%)	TCR @ +20 $^{\circ}\text{C}$ to +60 $^{\circ}\text{C}$	Thermal Resistance (K/W)
	Free Air (W)	Heat Sink (W)				
BRF8065	24	350	1 m Ω to 400 Ω	4 Terminals: <10 m Ω : 0.5, 1, 2, 5 ≥ 10 m Ω : 0.25, 0.5, 1, 2, 5 ≥ 20 m Ω : 0.1, 0.25, 0.5, 1, 2, 5 2 Terminals: 0.5, 1, 2, 5	4 Terminals >20 m Ω ± 15 PPM ≤ 20 m Ω ± 20 PPM ≤ 10 m Ω ± 30 PPM 2 Terminals: ± 50 PPM	0.16
BRF8110	32	600	1 m Ω to 500 Ω			0.09
BRF8216	60	1200	1 m Ω to 500 Ω			0.04
BRF8320	80	2000	1 m Ω to 500 Ω			0.026
BRF8370	90	2500	1 m Ω to 500 Ω			0.022

Environmental Characteristics

Specification	Value
Operating Temperature	-40 $^{\circ}\text{C}$ to +130 $^{\circ}\text{C}$
Max. Working Voltage	$\sqrt{P \cdot R}$ with a maximum of 1500 V
Max. Current	60 A
Thermal EMF	<0.1 $\mu\text{V/K}$
Storage Conditions Temperature Humidity	+5 $^{\circ}\text{C}$ to +35 $^{\circ}\text{C}$ 40 % to 75 %
Moisture Sensitivity Level	1

Current Rating Thermal Derating Curve



The resistors must be attached to a suitable heat sink. The maximum internal resistor temperature is 155 $^{\circ}\text{C}$.

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

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Additional Information

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Packaging Information

BRF8065, BRF8110 2 pcs./box
BRF8216, BRF8320, BRF8370 1 pc./box

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Can expose you to lead, a carcinogen and reproductive toxicant.

See www.P65Warnings.ca.gov

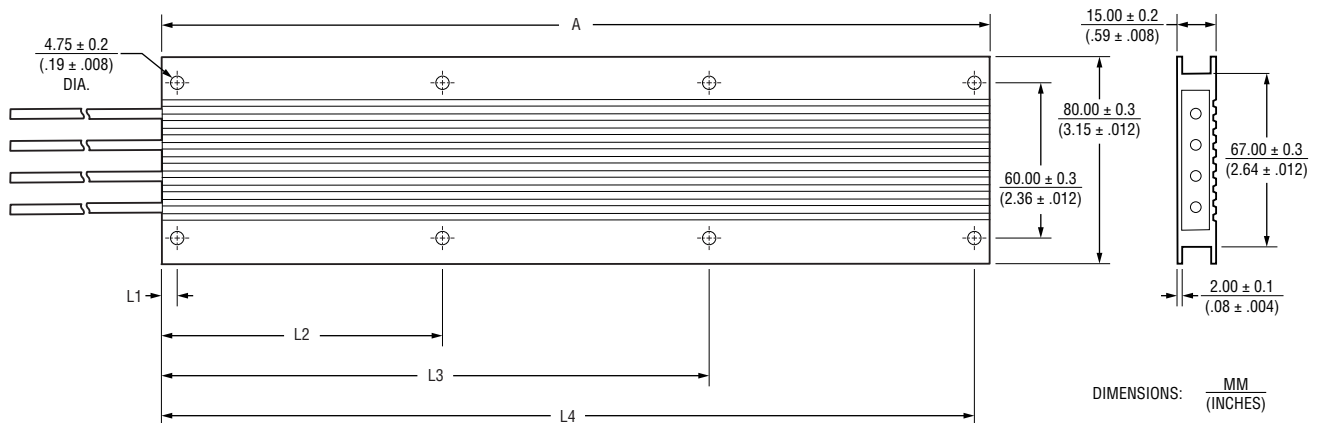
BRF Series – High Precision Power Foil Resistor

BOURNS®

Performance Characteristics

Test	Conditions	Test Method	
		Reference	Limit
Load Life	1000 hours, on/off with rated power at +25 °C	MIL-STD-202 Method 108	$\Delta R < \pm 0.5 \%$
High Temperature Exposure	+155 °C for 1000 hours	MIL-STD-202 Method 303	$\Delta R < \pm 0.5 \%$
Low Temperature Storage	-40 °C for 24 hours	MIL-STD-202 Method 303	$\Delta R < \pm 0.1 \%$
Thermal Shock	-40 °C to +130 °C, 5 cycles	MIL-STD-202 Method 107	$\Delta R < \pm 0.1 \%$
Humidity Resistance	+40 °C / 90 % for 240 hours	MIL-STD-202 Method 103	$\Delta R < \pm 0.1 \%$
Resistance to Solder Heat	Solder dipping at 260 °C for 10 sec.	MIL-STD-202 Method 210	$\Delta R < \pm 0.1 \%$
Short Time Overload	2.5x rated power for 5 sec.	MIL-STD-202 Method 303	$\Delta R < \pm 0.1 \%$

Product Dimensions



	BRF8065	BRF8110	BRF8216	BRF8320	BRF8370
A	65.00 ± 0.3 (2.56 ± .012)	110.00 ± 0.3 (4.33 ± .012)	216.00 ± 0.3 (8.50 ± .012)	320.00 ± 0.3 (12.60 ± .012)	370.00 ± 0.3 (14.57 ± .012)
L1	6.00 ± 0.3 (.24 ± .012)	6.00 ± 0.3 (.24 ± .012)	6.00 ± 0.3 (.24 ± .012)	6.00 ± 0.3 (.24 ± .012)	6.00 ± 0.3 (.24 ± .012)
L2	59.00 ± 0.3 (2.32 ± .012)	104.00 ± 0.3 (4.09 ± .012)	108.00 ± 0.3 (4.25 ± .012)	108.50 ± 0.3 (4.27 ± .012)	125.50 ± 0.3 (4.94 ± .012)
L3	—	—	210.00 ± 0.3 (8.27 ± .012)	211.50 ± 0.3 (8.33 ± .012)	244.50 ± 0.3 (9.63 ± .012)
L4	—	—	—	314.00 ± 0.3 (12.36 ± .012)	364.00 ± 0.3 (14.33 ± .012)

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BRF Series – High Precision Power Foil Resistor

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Termination Options

Type	Max. Current	Description
TD	60 A	Insulated round cable (Cu-tinned)
T1	70 A	Insulated Cu-flat cable
T2	85 A	
T3	100 A	
T4	120 A	
T5	150 A	

How To Order

BRF 8065 - F Z - R005 TD 4

Model _____

Size _____
 8065 = 80 x 65 mm
 8110 = 80 x 110 mm
 8216 = 80 x 216 mm
 8320 = 80 x 320 mm
 8370 = 80 x 370 mm

Resistance Tolerance (%) _____
 B = ± 0.1 F = ± 1
 C = ± 0.25 G = ± 2
 D = ± 0.5 J = ± 5

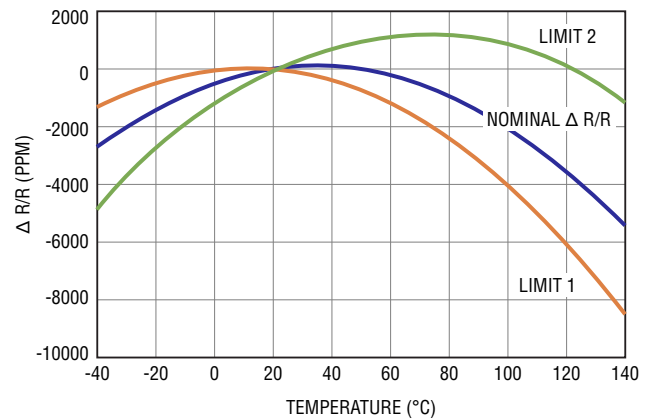
TCR (PPM/°C) _____
 Z = ± 50

Resistance Value Code _____
 "R" represents decimal point
 (example: R005 = 5 m Ω , 5R00 = 5.00 Ω , 100R = 100 Ω)

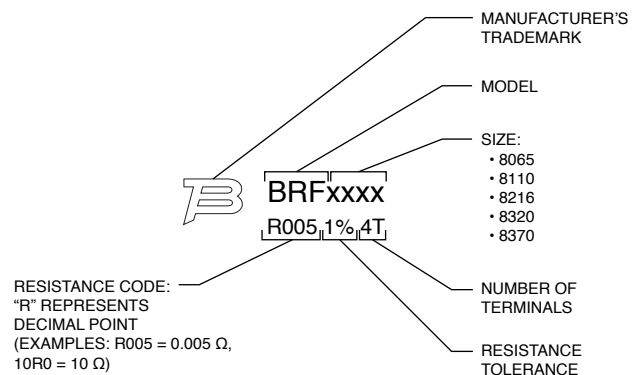
Terminal Options _____
 TD = 60 A (standard) T3 = 100 A
 T1 = 70 A T4 = 120 A
 T2 = 85 A T5 = 150 A

Terminals _____
 2 = 2 terminals
 4 = 4 terminals

TCR Curve



Typical Part Marking



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