



Features

- Low inductance
- High overload capability
- Wide operating temperature range
- High power
- RoHS compliant*



This series is currently available, but not recommended for new designs. See [Product Obsolescence Memo](#) for details.

Applications

- Rectifiers
- Inverter drives
- Switching power supplies

PWR413 Series Current Sense Resistors

General Information

The Bourns® PWR413 Series is a through-hole current sense resistor with a high overload capability and a wide operating temperature range.

Performance

Load Life (1000 Hours @ 70 °C) ... $\frac{\Delta R}{R}$ 2.5 %
 Moisture No Load 100 Hours 1 %
 Temperature Cycling (-40 °C to +125 °C, 1000 Cycles) ... 1 %

Electrical Specifications

Power Rating @ 85 °C ... 1 W, 3 W, 5 W
 Resistance Range 0.01 to 0.1 ohms
 (See Standard Resistance Table)
 Temperature Range -55 ° to +325 °C
 Maximum Working Voltage $\sqrt{P \cdot R}$
 Short Time Overload 5 x Rated Power for 5 seconds
 Temperature Coefficient ± 900 ppm/°C to ± 60 ppm/°C**
 Packaging 250 pcs./bag

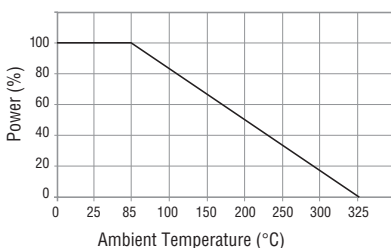
**Dependent on resistor value.

Standard Resistance Table

Resistance Code	Resistance Values		
	1 W	3 W	5 W
R010	0.01	0.01	0.01
R015	N/A	0.015	N/A
R020	0.02	0.02	0.02
R025	0.025	0.025	0.025
R030	0.03	0.03	0.03
R040	N/A	0.04	0.04
R050	0.05	0.05	0.05
R100		0.1	

Other resistance values available upon request.

Power Derating Curve

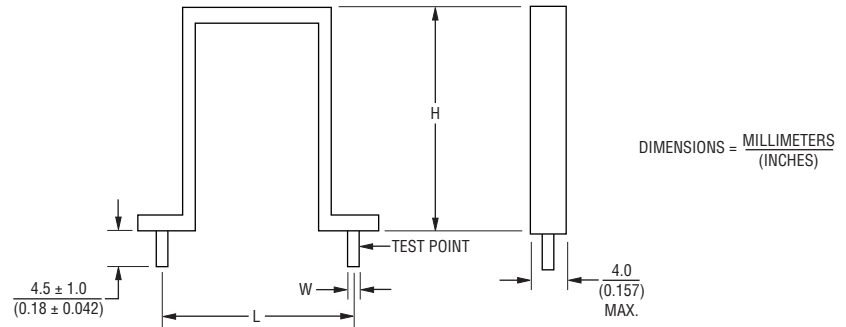


REV. 12/15

*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011. Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

Product Dimensions



NOTES: Resistance measurement must be made using a 4-wire system and insulated clips attached at the Test Point. Terminal Pins are Tin-Plated Copper.

Power Rating (W)	Version	Dimension L	Dim. H (Max.)	Dimension W	Resistance Values (Ω)
1	B	$\frac{11.43 + 1.02/-0.51}{(0.450 + 0.04/-0.02)}$	$\frac{13.5}{(0.59)}$	$\frac{0.8 \pm 0.05}{(0.03 \pm 0.002)}$	0.01 - 0.05
3	C	$\frac{15.24 + 1.02/-0.51}{(0.60 + 0.04/-0.02)}$	$\frac{16.0}{(0.63)}$	$\frac{1.0 \pm 0.05}{(0.04 \pm 0.002)}$	0.01 - 0.1
5	D	$\frac{20.32 + 1.02/-0.51}{(0.80 + 0.04/-0.02)}$	$\frac{26.0}{(1.02)}$	$\frac{1.0 \pm 0.05}{(0.04 \pm 0.002)}$	0.01 - 0.05

How to Order

Model _____

Version _____

B = 1 W
C = 3 W
D = 5 W

Resistance Code _____

4 Digits - See Standard Resistance Table

Resistance Tolerance _____

J = 5 %
F = 1 %

PWR413 D R050 J