

Features

- Low TCR
- Low electrical noise
- Low inductance/capacitance
- High power rating
- Low ohmic values



This series is unavailable and not recommended for new designs.

PWR220/PWR221 S Series Shunt Resistor

Material Specifications

Resistor Metal Foil (CuNiMn)
 Substrate Alumina (AL2O3)
 Housing Epoxy/PPS
 Lead Frame Tinned Copper (Sn/Cu)
 Maximum Torque 1.0 Nm
 Packaging
 Tubes 50 pcs./tube
 Tape & Reel** 500 pcs./reel

**Tape & Reel is only available for Version A.

General Information

The Bourns® PWR220 S Series is a TO220 style Shunt Resistor; the PWR221 S Series is a TO221 style Shunt Resistor. Manufactured using foil on alumina ceramic, it is used in applications such as power supplies, motor drives and measurements.

Electrical & Thermal Characteristics

Parameter	Symbol	Min.	Nom.	Max.	Unit
Resistance	R	0.002		50	Ω
Power Rating @ 70 °C without additional heat sink @ 70 °C with adequate heat sink*		10		1.50 15	W
Tolerance 0.002 Ω < R < 0.01 Ω 0.01 Ω < R < 0.10 Ω 0.10 Ω < R < 50.0 Ω		2.0** 1.0*** 0.5**		5.0 5.0 5.0	%
TCR 20 °C < T < 60 °C -40 °C < T < +130 °C				±15.0 ±50.0	PPM/°C
Thermal Resistance – Rthj (Max @ R < 50 Ω)				4.8	°C/W
Stability		0.1		0.5	%
Thermal EMF				1.0	μV/°C
Dielectric Withstanding Voltage				300	VDC
Operating Temperature	T _J	-40		+130	°C

* Thermal junction 130 °C max.

** 1 % also available with 4-pin version.

***0.1 % and 0.24 % also available with 4-pin version.

*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.

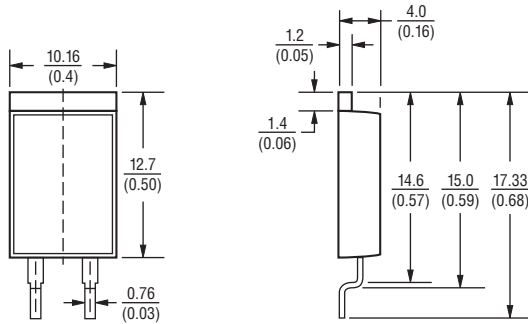
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

PWR220/PWR221 S Series Shunt Resistor

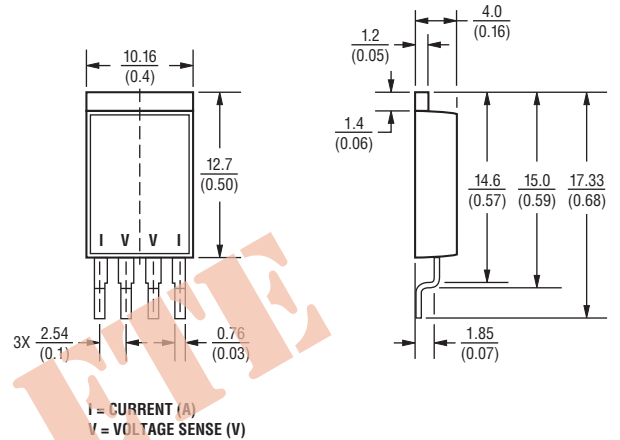


Product Dimensions

T0220 Casing: 2-Pin (Surface Mount)



T0220 Casing: 4-Pin (Surface Mount)

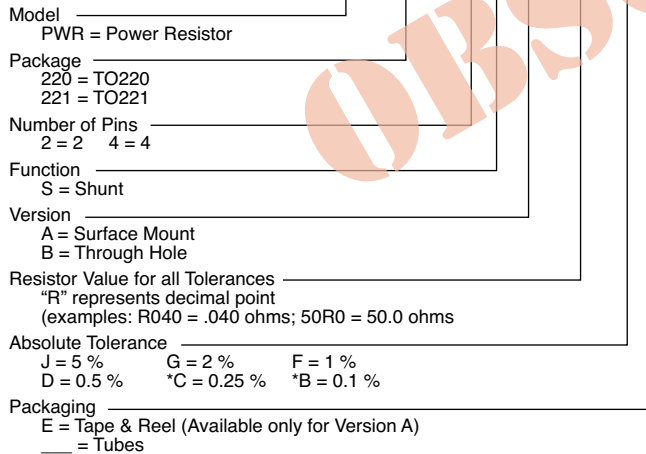


DIMENSIONS = $\frac{\text{MILLIMETERS}}{\text{(INCHES)}}$

I = CURRENT (A)
V = VOLTAGE SENSE (V)

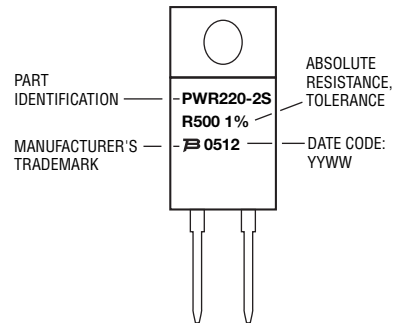
How to Order

PWR 220 - 2 S A R040 J E



*Available only with 4-pin versions.

Typical Part Marking

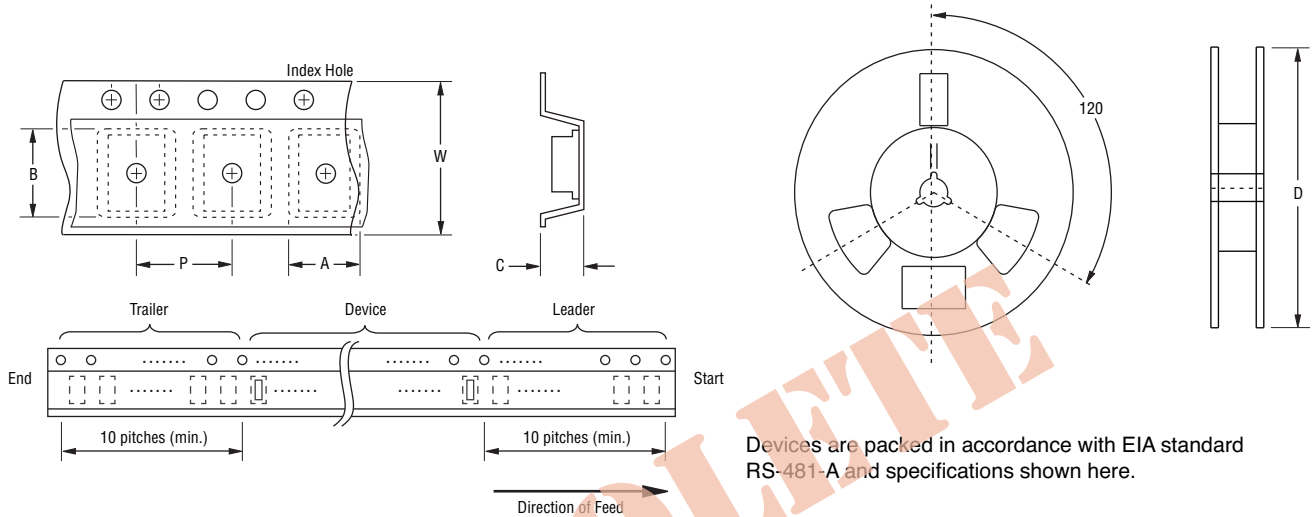


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BOURNS®

Packaging Dimensions



Item	Symbol	Dimensions
Carrier Width	A	$\frac{10.4}{(0.409)}$
Carrier Length	B	$\frac{18.4}{(0.724)}$
Carrier Depth	C	$\frac{4.4}{(0.173)}$
Reel Outside Diameter	D	$\frac{330}{(12.992)}$
Punch Hole Pitch	P	$\frac{16.00}{(0.630)}$
Tape Width	W	$\frac{32}{(1.260)}$
Quantity per Reel	—	500

REV. 10/15

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