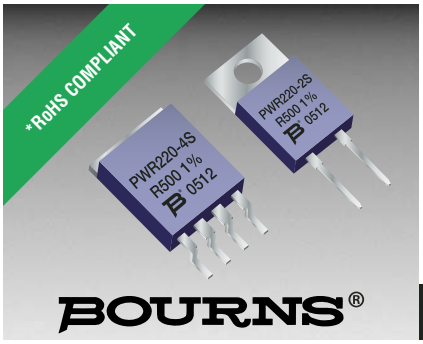


Features

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

Applications

- Power supplies
- Motor drives
- Test and measurement
- Electricity meters

PWR220 S Series Shunt Resistor

Material Specifications

Resistor.....Metal Foil (CuNiMn)
Substrate.....Alumina (AL203)
Housing.....Epoxy/PPS
Lead Frame .....Tinned Copper (Sn/Cu)
Maximum Torque.....1.0 Nm
Packaging
Tubes.....50 pcs./tube
Tape & Reel.....500 pcs./reel

General Information

The Bourns® PWR220 S Series is a TO220 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

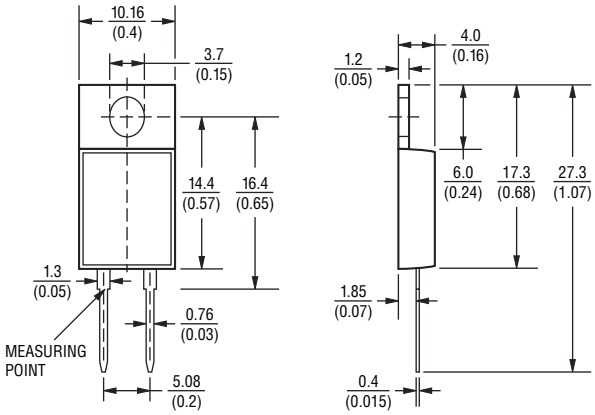
Parameter	Symbol	Min.	Nom.	Max.	Unit
Resistance	R	0.002		50	Ω
Power Rating @ 70 °C without heat sink @ 70 °C with heat sink		 10		 1.50 15	W
Tolerance 0.002 Ω < R < 0.01 Ω 0.01 Ω < R < 0.10 Ω 0.10 Ω < R < 50.0 Ω		 2.0* 1.0** 0.5**		 5.0 5.0 5.0	%
TCR 20 °C < T < 60 °C -40 °C < T < +130 °C				 ±15.0 ±50.0	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

* 1 % also available with 4-pin version.
** 0.1 % and 0.24 % also available with 4-pin version.

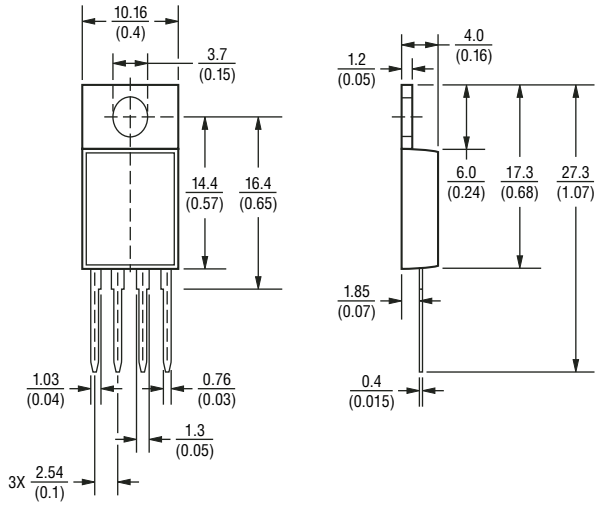
*RoHS Directive 2002/95/EC Jan 27 2003, including Annex
Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

Product Dimensions

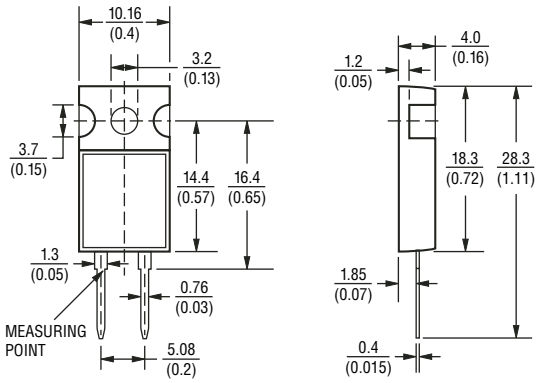
TO220 Housing: 2-Pin



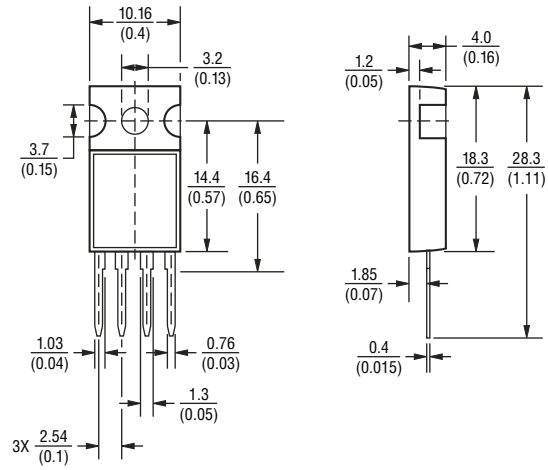
TO220 Housing: 4-Pin



TO221 Casing: 2-Pin



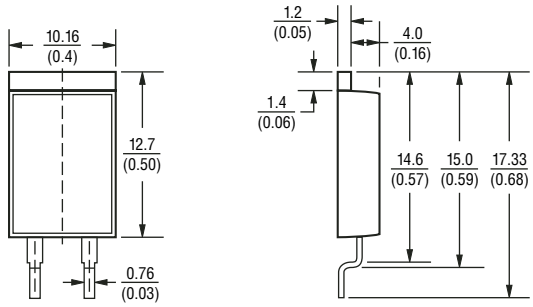
TO221 Casing: 4-Pin



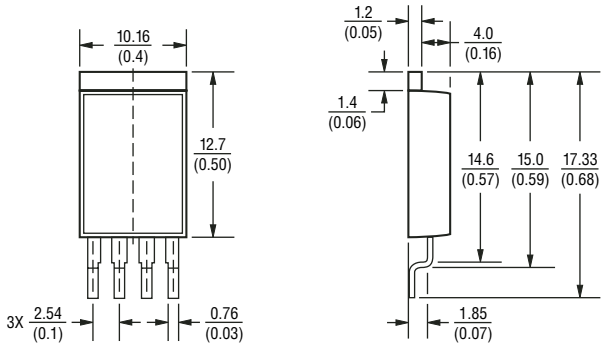
Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

Product Dimensions

TO220 Casing: 2-Pin (Surface Mount)



TO220 Casing: 4-Pin (Surface Mount)



How to Order

PWR 220 - 2 S A R0400 J E

Model
PWR = Power Resistor

Package
220 = TO220
221 = TO221

Number of Pins
2 = 2 4 = 4

Function
S = Shunt

Version
A = Surface Mount
B = Through Hole

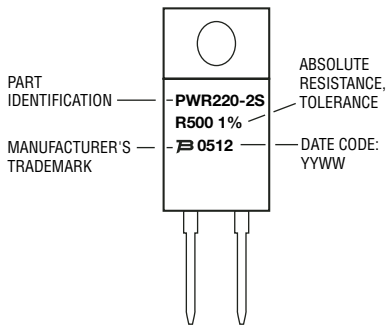
Resistor Value
R (4 Digits)

Absolute Tolerance
J = 5 % G = 2 % F = 1 %
D = 0.5 % *C = 0.25 % *B = 0.1 %

Packaging
E = Tape & Reel
___ = Tubes

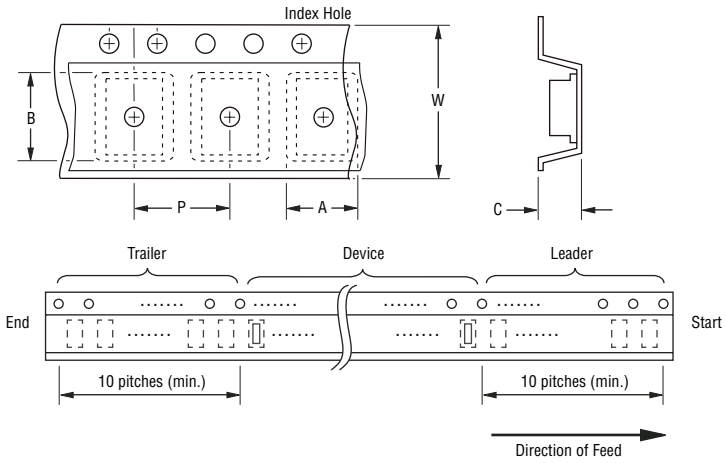
*Available only with 4-pin versions.

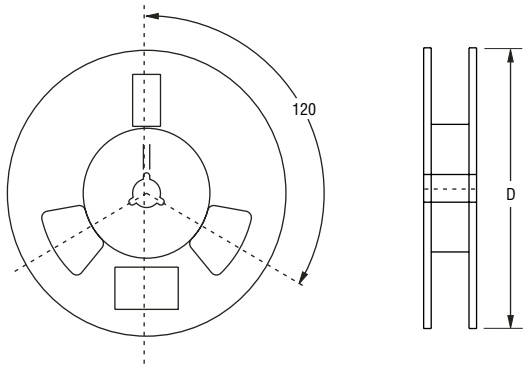
Typical Part Marking



Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

Packaging Dimensions





Devices are packed in accordance with EIA standard RS-481-A and specifications shown here.

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

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