

Features

- TO220 housing
- Low inductance
- SMD and through hole versions
- High power rating

Applications

- Power supplies
- Motor drives
- Test and measurement
- Welding

PWR220 F Series Power Resistor

Material Specifications

ResistorThick film
 Substrate.....Alumina (AL203)
 Housing.....Epoxy/PPS
 Lead FrameTinned Copper (Sn/Cu)
 Maximum Torque.....1.0 Nm
 Packaging
 Tubes.....50 pcs./tube
 Tape & Reel.....500 pcs./reel

General Information

The Bourns® PWR220 F Series is a TO220 style Power Resistor. Manufactured using thick film on Alumina ceramic technology, it is used in applications such as power supplies, motor drives and measurements.

Electrical & Thermal Characteristics

Parameter	Symbol	Min.	Nom.	Max.	Unit
Resistance (Version A & B) (Version C)	R R	0.02 0.02		100K 15K	Ω Ω
Power Rating @ 70 °C without heat sink Power Rating @ 70 °C with heat sink (Version A & B) (Version C)				1.50 30 50	W W W
Tolerance 0.02 Ω < R < 1.0 Ω 1.0 Ω < R < 100K Ω		2.0 1.0		5.0 5.0	% %
TCR 0.1 Ω < R < 100.0K Ω 0.05 Ω < R < 0.099 Ω 0.02 Ω < R < 0.049 Ω				\pm 100 \pm 300 \pm 600	PPM/°C PPM/°C PPM/°C
Thermal Resistance – Rthj (Version A & B) (Version C)			3.5 2.1		°C/W °C/W
Stability		0.1		0.5	%
Thermal EMF				1.0	μ V/°C
Dielectric Withstanding Voltage				2	kV DC
Operating Temperature	T _J	-40		+130	°C

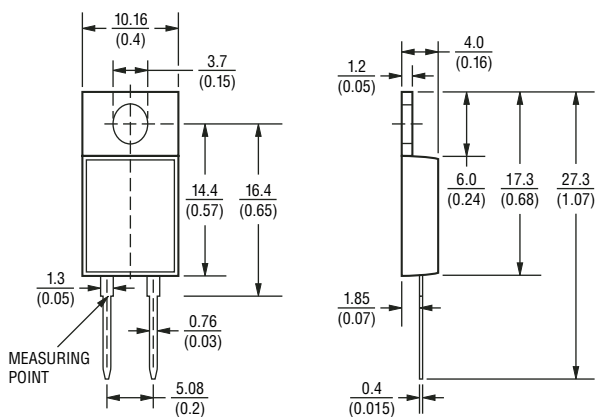
*RoHS Directive 2002/95/EC Jan 27 2003, including Annex
 Specifications are subject to change without notice.
 Customers should verify actual device performance in their specific applications.

PWR220 F Series Power Resistor

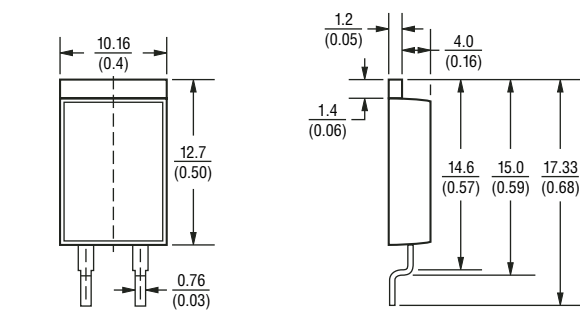


Product Dimensions

TO220 Housing: 2-Pin

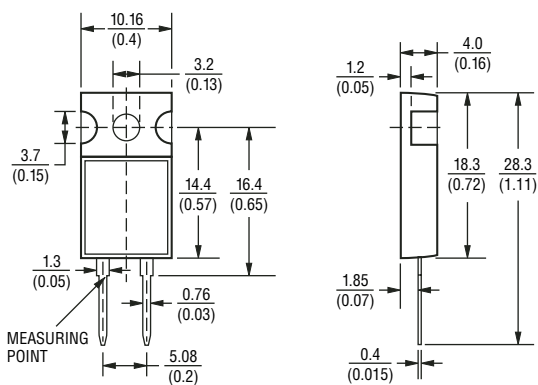


TO220 Casing: 2-Pin (Surface Mount)



DIMENSIONS = MILLIMETERS
(INCHES)

TO221 Casing: 2-Pin



DIMENSIONS = MILLIMETERS
(INCHES)

How to Order

PWR 220 - 2 F B R0400 J E

Model _____
 PWR = Power Resistor

Package _____
 220 = TO220
 221 = TO221

Number of Pins _____
 2 = 2

Function _____
 F = Thick Film

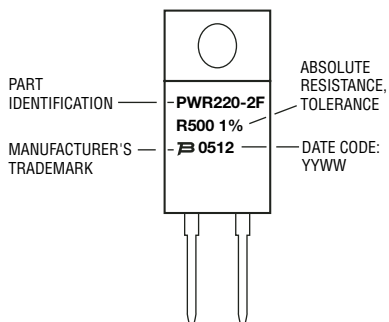
Version _____
 A = Surface Mount 30 W (with Heat Sink)
 B = Through-Hole 30 W (with Heat Sink)
 C = Through-Hole 50 W (with Heat Sink)

Resistor Value _____
 R (4 Digits)

Absolute Tolerance _____
 J = 5 % G = 2 % F = 1 %

Packaging _____
 E = Tape & Reel
 ___ = Tubes

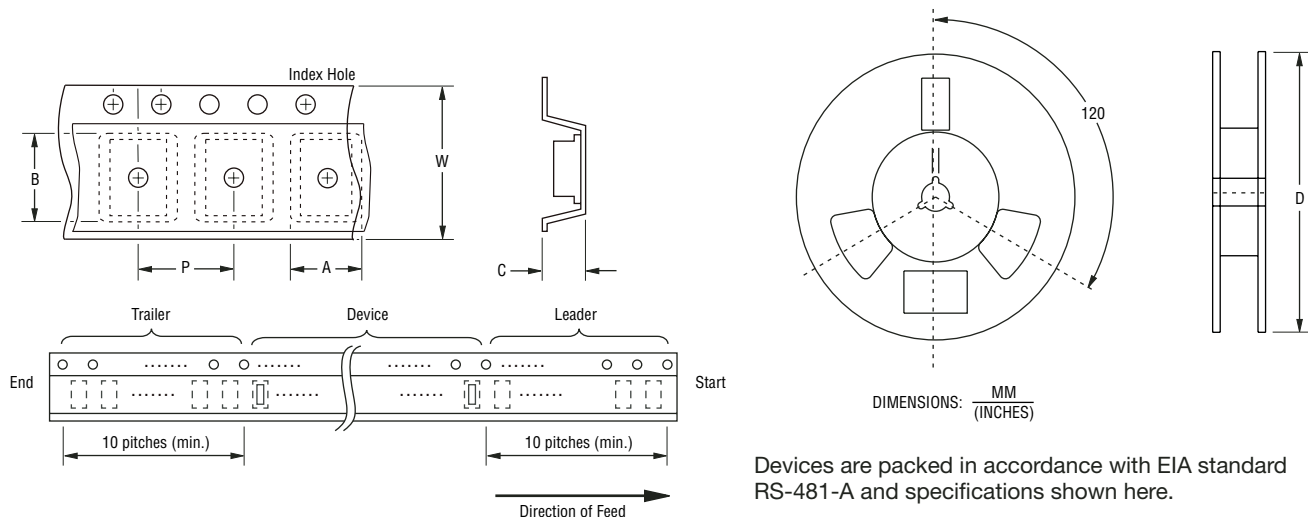
Typical Part Marking



PWR220 F Series Power Resistor

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



Reliable Electronic Solutions

Asia-Pacific:

Tel: +886-2 2562-4117 • Fax: +886-2 2562-4116

Europe:

Tel: +41-41 768 5555 • Fax: +41-41 768 5510

The Americas:

Tel: +1-951 781-5500 • Fax: +1-951 781-5700

www.bourns.com