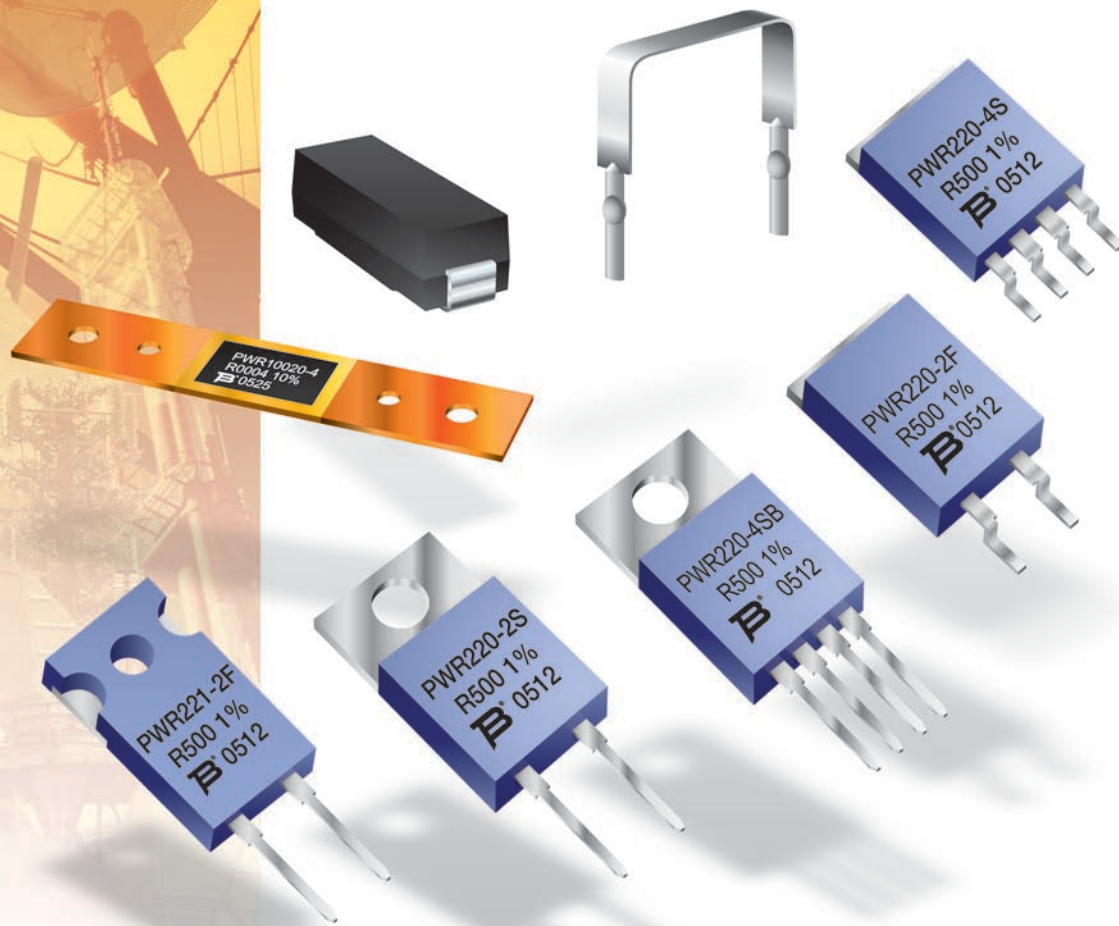


Bourns® Power Resistors

Short Form Brochure

Revision 1



Bourns® Power Resistors

As power densities increase, there is a continued increase in the demand for resistors, which can withstand higher amounts of power in as small a form factor as possible.

The PWR220-F series is through-hole and surface mount planar thick film power resistors which when properly mounted on heat sinks can dissipate up to 50 W of DC power. These resistors are designed for use in applications where sudden surges in power need to be safely discharged, such as snubber resistors in inverter drives, welding machines or emergency power systems.

For power electronic applications such as current measurement of electricity meters or emergency battery chargers, the PWR4412 series offers all of these characteristics with a TCR of 20 PPM and power ratings of up to 5 W.

Where specialty current measurement resistors are required with very tight resistance tolerance TCRs and high power, Bourns offers metal foil on ceramic resistors.

The PWR220-S series provides absolute tolerances of as low as 0.1 % together with DC power of 15 W and TCRs of 15 PPM in 4 pin Kelvin configurations.

The PWR10020 is a high current shunt with 60 mV output for a rated current of 150 A DC. It is used in high-energy equipment such as battery chargers for emergency backup systems.

In applications requiring both the qualities of wirewound resistors such as the high pulse power capability and a surface mount package, Bourns offers an alternative choice with the PWR1913, PWR2615, PWR4525 and PWR6327 series.

Model Version Matrix				
Version	Package			
	PWR220	PWR221	PWR4412	PWR10020
A	SMD	NA	NA	Resistor Supplied without Fixing Screws
B	30 W Power	30 W Power	1 W Power	Resistor Supplied with Fixing Screws
C	50 W Power	50 W Power	3W Power	NA
D	NA	NA	5W Power	NA

(NA = Not Available)

How to Order

PWR 220 - 2 F A 7R50 J E
PWR 1913 W 7R50 J E

Product Class → Power Resistor

Package →
 220 = TO220
 221 = TO221
 1913 = 0.19 x 0.13 "
 2615 = 0.26 x 0.15 "
 4525 = 0.45 x 0.25 "
 6327 = 0.63 x 0.27 "
 4412 = Open Air Shunt
 10020 = 100 x 20 mm

Dash → (Not used with PWR1913_6327)

Number of Terminals →
 (Not used with PWR1913_6327)
 2 = 2 Terminals
 4 = 4 Terminals

Type →
 F = Thick Film
 S = Metal Foil
 W = Wire Wound
 N = Non Inductive Wire Wound
 (Not available on PWR1913)

Model Version →
 (Not Used for Types W and N)
 A, B, C, D (Consult Matrix Below)

Resistance Value →
 >100 Ohms
 (The first 3 digits are significant. The 4th digit represents the number of zeros to follow)
 <100 Ohms
 (R represents the decimal point)

Resistance Tolerance →
 J = 5%, F = 1%
 D = 0.5%, C = 0.25%, B = 0.1%
 (Only Available with S Types)

Packaging →
 Blank = Bulk
 (TO220 = Tubes, Wire = Bags, PWR4412 = Bags, PWR10020 = Boxes)
 E = Reel
 (Only with PWR220, PWR1913_6327)

Bourns® Power Resistors



PWR4412-2SB

Power Rating	1 W
Resistance Range	5 - 100 mΩ
TCR (PPM/°C)	±20
Resistor Material	Metal Alloy: NiCr
Function	Through-hole

Applications

- Metering
- Power supplies
- Actuator controls



PWR4412-2SC

Power Rating	3 W
Resistance Range	5 - 100 mΩ
TCR (PPM/°C)	±20
Resistor Material	Metal Alloy: NiCr
Function	Through-hole

Applications

- Metering
- Power supplies
- Actuator controls



PWR4412-2SD

Power Rating	5 W
Resistance Range	5 - 50 mΩ
TCR (PPM/°C)	±20
Resistor Material	Metal Alloy: NiCr
Function	Through-hole

Applications

- Metering
- Power supplies
- Actuator controls

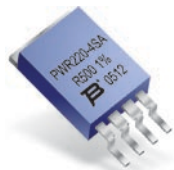


PWR10020-4S

Power Rating	9 W
Resistance Range	0.06 - 0.6 mΩ
TCR (PPM/°C)	±20
Resistor Material	Metal alloy: CuNiMn
Function	Chassis Mount

Applications

- High voltage equipment

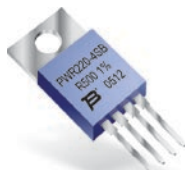


PWR220-4SA

Power Rating	15 W
Resistance Range	2 mΩ - 50 Ω
TCR (PPM/°C)	±15 (20 °C < T < 60 °C) ±50 (-40 °C < T < 130 °C)
Resistor Material	Metal foil: CuNiMn
Function	TO-220 Style Surface Mount Kelvin Connection

Applications

- Power supplies
- Motor controls



PWR220-4SB

Power Rating	15 W
Resistance Range	2 mΩ - 50 Ω
TCR (PPM/°C)	±15 (20 °C < T < 60 °C) ±50 (-40 °C < T < 130 °C)
Resistor Material	Metal foil: CuNiMn
Function	TO-220 Style Surface Mount Kelvin Connection

Applications

- Power supplies
- Motor controls



PWR220-2FA

Power Rating	30 W		
Resistance Range	20 - 49 mΩ	50 - 99 mΩ	100 mΩ - 100 KΩ
TCR (PPM/°C)	±600	±300	±100
Resistor Material	Thick film		
Function	TO-220 Style Surface Mount		

Applications

- HVAC
- Electric welding
- UPS



PWR221-2FB

Power Rating	30 W		
Resistance Range	20 - 49 mΩ	50 - 99 mΩ	100 mΩ - 100 KΩ
TCR (PPM/°C)	±600	±300	±100
Resistor Material	Thick film		
Function	TO-220 Style Surface Mount		

Applications

- HVAC
- Electric welding
- UPS



PWR220-2FC

Power Rating	50 W		
Resistance Range	20 - 49 mΩ	50 - 99 mΩ	100 mΩ - 15 KΩ
TCR (PPM/°C)	±600	±300	±100
Resistor Material	Thick film		
Function	TO-220 Style Surface Mount		

Applications

- HVAC
- Electric welding
- UPS



PWR220-2FB

Power Rating	30 W		
Resistance Range	20 - 49 mΩ	50 - 99 mΩ	100 mΩ - 100 KΩ
TCR (PPM/°C)	±600	±300	±100
Resistor Material	Thick film		
Function	TO-220 Style Surface Mount		

Applications

- HVAC
- Electric welding
- UPS

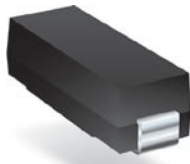


PWR221-2FC

Power Rating	50 W		
Resistance Range	20 - 49 mΩ	50 - 99 mΩ	100 mΩ - 15 KΩ
TCR (PPM/°C)	±600	±300	±100
Resistor Material	Thick film		
Function	TO-220 Style Surface Mount		

Applications

- HVAC
- Electric welding
- UPS



PWR6327

Power Rating	3 W
Resistance Range	0.01 - 25K
TCR (PPM/°C)	20 (R>10), 50 (R>1), 150 (R>0.01),
Resistor Material	Wire
Function	Surface Mount

Applications

- Power Supplies
- Motor Drives
- Telecom Cards



PWR4525

Power Rating	2 W
Resistance Range	0.01 - 15K
TCR (PPM/°C)	20 (R>10), 50 (R>1), 150 (R>0.01),
Resistor Material	Wire
Function	Surface Mount

Applications

- Power Supplies
- Motor Drives
- Telecom Cards



PWR2615

Power Rating	1 W
Resistance Range	0.01 - 3K
TCR (PPM/°C)	20 (R>10), 50 (R>1), 150 (R>0.01),
Resistor Material	Wire
Function	Surface Mount

Applications

- Power Supplies
- Motor Drives
- Telecom Cards



PWR1913

Power Rating	0.5 W
Resistance Range	0.01 - 400
TCR (PPM/°C)	20 (R>10), 50 (R>1), 150 (R>0.01),
Resistor Material	Wire
Function	Surface Mount

Applications

- Power Supplies
- Motor Drives
- Telecom Cards



Worldwide Sales Offices

Country	Phone	Fax
Benelux:	+41 (0)41 768 5555	+41 (0)41 768 5510
Brazil:	+55 11 5505 0601	+55 11 5505 4370
China:	+86 21 64821250	+86 21 64821249
France:	+33 (0)2 5473 5151	+33 (0)2 5473 5156
Germany:	+49 (0)69 800 78212	+49 (0)69 800 78299
Italy:	+41 (0)41 768 5555	+41 (0)41 768 5510
Japan:	+81 49 269 3204	+81 49 269 3297
Singapore:	+65 63487227	+65 63481272
Switzerland:	+41 (0)41 768 5555	+41 (0)41 768 5510
Taiwan:	+886 2 25624117	+886 2 25624116
UK/Ireland:	+44 (0)1276 691087	+44 (0)1276 691088
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Non-Listed European

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Technical Assistance

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Europe:	+41 (0)41 768 5555	+41 (0)41 768 5510
Americas:	+1-951-781-5500	+1-951-781-5700

www.bourns.com

Bourns® products are available through an extensive network of manufacturer's representatives, agents and distributors. To obtain technical applications assistance, a quotation, or to place an order, contact a Bourns representative in your area.

Specifications subject to change without notice. Actual performance in specific customer applications may differ due to the influence of other variables. Customers should verify actual device performance in their specific applications.



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