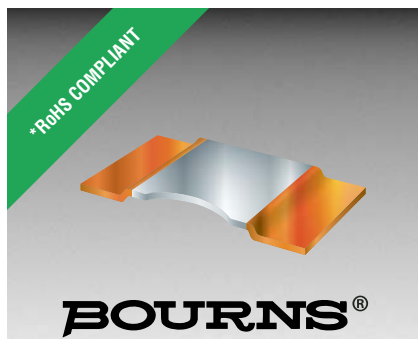




## Features

- Low TCR (75 ppm/°C)
- High current capability
- Ultra low resistance values

## Applications

- Power supplies
- Motor drives
- Electricity metering

## PWR3920 S Series Power Resistor

### Electrical Characteristics

| Parameter                     | Value                             | Unit      |
|-------------------------------|-----------------------------------|-----------|
| Resistance Range              | 0.2, 0.3, 0.5, 1.0, 2.0, 3.0, 4.0 | milliohms |
| Power Rating @ 70 °C          | 3.0                               | W         |
| Tolerance                     | 1, 5                              | %         |
| Temperature Coefficient (TCR) | ±75                               | PPM/°C    |
| Operating Temperature         | -65 to +170                       | °C        |
| Maximum Operating Voltage     | $\sqrt{P \times R}$               |           |

### General Information

The Bourns® PWR3920 Series is a surface mount shunt resistor offering up to 3 W of power and very low resistance values as well as excellent TCR characteristics. It is designed for applications such as motor drives and power supplies.

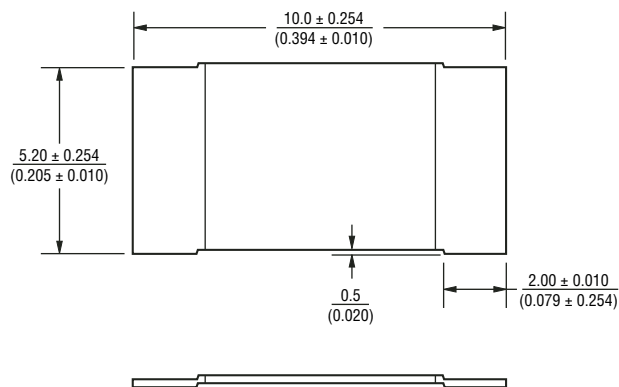
### Environmental Characteristics

| Description                  | Method                                                              | Limit ( $\Delta R$ )         |
|------------------------------|---------------------------------------------------------------------|------------------------------|
| Short Time Overload          | 5 x Rated Power for 5 Seconds                                       | ± (1.0 % + 0.0005 $\Omega$ ) |
| High Temperature Storage     | 1000 Hours at +175 °C                                               | ± (1.0 % + 0.0005 $\Omega$ ) |
| Vibration                    | Frequency varied 10 to 2000 Hz in 1 Minute, 3 Directions, 12 Hours  | ± (0.5 % + 0.0005 $\Omega$ ) |
| Mechanical Shock             | 100 g for 6 Milliseconds, 5 Pulses                                  | ± (0.5 % + 0.0005 $\Omega$ ) |
| Load Life                    | 1000 Hours at +70 °C, 1.5 Hours "ON", 0.5 Hours "OFF"               | ± (0.5 % + 0.0005 $\Omega$ ) |
| Bias Humidity                | +85 °C, 85 % RH, 10 % Bias, 1000 Hours                              | ± (0.5 % + 0.0005 $\Omega$ ) |
| Resistance to Solder Heat    | +260 °C Solder, 10 - 12 Second Dwell, 25 mm/Second                  | ± (0.5 % + 0.0005 $\Omega$ ) |
| Low Temperature Storage      | -65 °C for 45 Minutes                                               | ± (0.5 % + 0.0005 $\Omega$ ) |
| Load Life                    | $\sqrt{P \times R}$ for 1000 Hours, 1.5 Hours "ON", 0.5 Hours "OFF" | ± (1.0 % + 0.0005 $\Omega$ ) |
| Moisture Resistance          | MIL-STD-202, Method 106, 0 % Power, 7a and 7b Not Required          | ± (0.5 % + 0.0005 $\Omega$ ) |
| Resistance to Soldering Heat | 260 °C for 10 Seconds                                               | ± (0.5 % + 0.0005 $\Omega$ ) |
| Thermal Shock                | 1000 Cycles from -55 °C to +150 °C, 15 Minutes at Temperature       | ± (0.5 % + 0.0005 $\Omega$ ) |

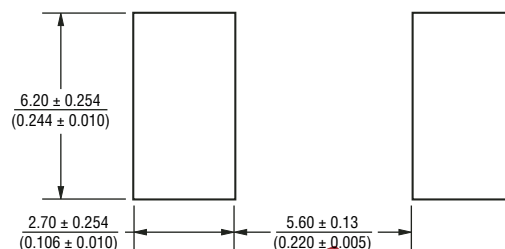
## PWR3920 S Series Power Resistor

**BOURNS®**

### Product Dimensions



### Solder Pads



DIMENSIONS =  $\frac{\text{MILLIMETERS}}{25.4}$  (INCHES)

### How to Order

**PWR 3920 - 2 S B R0040 J E**

Model \_\_\_\_\_  
PWR = Power Resistor

Package \_\_\_\_\_  
3920 = 0.39 x 0.20 inches

Number of Terminals \_\_\_\_\_  
2 = 2

Function \_\_\_\_\_  
S = Shunt

Version \_\_\_\_\_

Resistor Value \_\_\_\_\_  
R (4 Digits)

Absolute Tolerance \_\_\_\_\_  
J = 5 % F = 1 %

Packaging \_\_\_\_\_  
E = Tape & Reel  
\_\_\_ = Bulk

### Packaging Specifications

Type .....16 mm/Embossed Plastic  
Reel .....330 mm/13 in. diameter  
Pieces per Reel .....3000



*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](http://www.bourns.com)