



## Features

- Power ratings from 0.5 - 3 watts
- Large terminals and optimized body shape for power dissipation
- Excellent surge capabilities
- Low TCR
- RoHS compliant\*

## Applications

- Telecommunications
- Audio equipment
- Medical equipment
- Base stations
- Industrial equipment

## PWR2010/3014/4318/5322 - Surface Mount Wirewound Resistors

### General Information

The PWR2010/3014/4318/5322 Series surface mount wirewound resistors boast a high power density and excellent pulse power characteristics. They can be used in a wide range of applications where surge voltages or inrush currents are present.

### Electrical Characteristics

Parameter	PWR2010	PWR3014	PWR4318	PWR5322
Power	0.5 W	1.0 W	2.0 W	3.0 W
Resistance Range (E24 Values)	0.1 $\Omega$ - 1K $\Omega$	0.1 $\Omega$ - 4K $\Omega$	0.1 $\Omega$ - 8K $\Omega$	0.1 $\Omega$ - 15K $\Omega$
Tolerance	0.5 % / 1 % / 5 %			
Temperature Coefficient 0.1 - 0.99 $\Omega$ 1.0 - 10 $\Omega$ >10 $\Omega$	$\pm 90$ PPM/ $^{\circ}$ C $\pm 50$ PPM/ $^{\circ}$ C $\pm 20$ PPM/ $^{\circ}$ C			
Operating Temperature	-55 $^{\circ}$ to 155 $^{\circ}$ C			
Maximum Voltage	$\sqrt{P \cdot R}$			

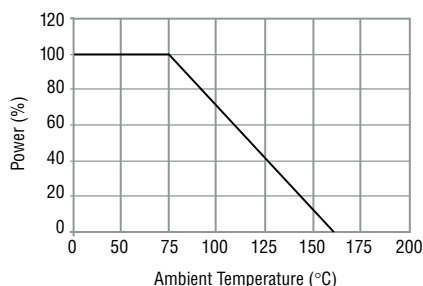
### Environmental Characteristics

Test	Description	Specification
Thermal Shock	-55 $^{\circ}$ C/-3 $^{\circ}$ C to 150 $^{\circ}$ C +3 $^{\circ}$ C/-0 $^{\circ}$ C, 5 cycles, with minimum 15 minutes at each cycle	$\Delta R \pm(2.0 \% +0.05 \Omega)$
Short Time Overload	Five times rated power for 5 seconds	$\Delta R \pm(0.5 \% +0.05 \Omega)$
Solderability	Immersion in solder 260 $^{\circ}$ C $\pm 5^{\circ}$ C for 5 $\pm 0.5$ seconds	90 % of contact covered in solder
Resistance to Solder Heat	Immersion in solder 260 $^{\circ}$ C $\pm 5^{\circ}$ C for 5 $\pm 0.5$ seconds	$\Delta R \pm(0.5 \% +0.05 \Omega)$
Dielectric Strength	Test voltage >500 Vrms for greater than 1 minute	Pass
Insulation Resistance	Test voltage greater than 500 Vrms for one minute	>1000 G $\Omega$
High Temperature Exposure	Ambient temperature of 175 $^{\circ}$ C +5 $^{\circ}$ C/-0 $^{\circ}$ C for 250 $\pm 8$ hours	$\Delta R \pm(2.0 \% +0.05 \Omega)$
Low Temperature Exposure	Ambient Temperature of -65C $\pm 2^{\circ}$ C for 24 hours $\pm 4$ hours	$\Delta R \pm(2.0 \% +0.05 \Omega)$
Load Life	Rated continuous voltage for 1000 hours (1 hour on and 0.5 hours off) at a test temperature of 70 $^{\circ}$ C $\pm 2^{\circ}$ C	$\Delta R \pm(2.0 \% +0.05 \Omega)$

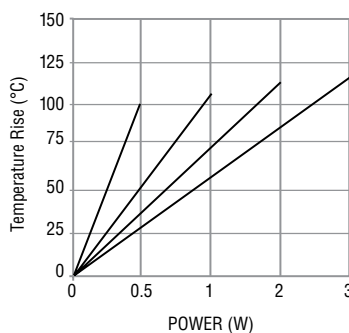
### Physical Characteristics

Body Material..... Epoxy resin  
Lead Frame .... 100 % Sn Plated Copper  
Flammability ..... Conforms to UL 94V-0

### Power Derating Curve



### Temperature Rise



**BOURNS®**

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\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

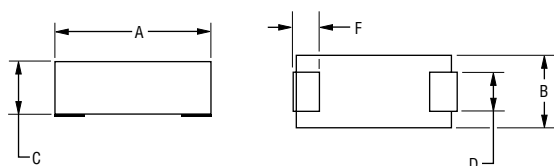
Specifications are subject to change without notice.

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# PWR2010/3014/4318/5322 - Surface Mount Wirewound Resistors

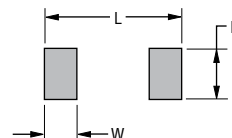
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## Product Dimensions



DIMENSIONS:  $\frac{\text{MM}}{(\text{INCHES})}$   
TOLERANCE:  $\pm \frac{0.508}{(0.02)}$

## Recommended Pad Layout

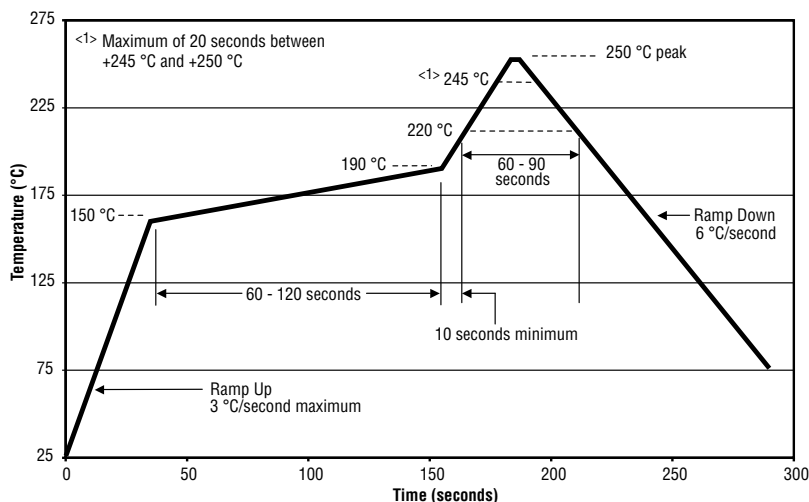


Model	A	F	L	C	B	D	W	H
PWR2010	$\frac{5.08}{(0.20)}$	$\frac{1.28}{(0.05)}$	$\frac{6.48}{(0.255)}$	$\frac{3.25}{(0.128)}$	$\frac{2.54}{(0.10)}$	$\frac{1.663}{(0.065)}$	$\frac{1.98}{(0.078)}$	$\frac{2.16}{(0.085)}$
PWR3014	$\frac{7.5}{(0.29)}$	$\frac{1.75}{(0.069)}$	$\frac{8.9}{(0.35)}$	$\frac{4.64}{(0.183)}$	$\frac{3.50}{(0.138)}$	$\frac{2.405}{(0.095)}$	$\frac{2.45}{(0.096)}$	$\frac{2.95}{(0.116)}$
PWR4318	$\frac{11.0}{(0.43)}$	$\frac{2.00}{(0.079)}$	$\frac{12.5}{(0.49)}$	$\frac{4.65}{(0.189)}$	$\frac{4.50}{(0.177)}$	$\frac{3.590}{(0.141)}$	$\frac{3.20}{(0.126)}$	$\frac{3.70}{(0.146)}$
PWR5322	$\frac{13.5}{(0.53)}$	$\frac{2.50}{(0.098)}$	$\frac{14.9}{(0.587)}$	$\frac{5.65}{(0.229)}$	$\frac{5.50}{(0.217)}$	$\frac{4.20}{(0.165)}$	$\frac{3.70}{(0.146)}$	$\frac{4.20}{(0.165)}$

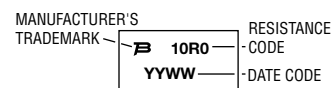
## Packaging Specifications

Model	Tape Width	Reel Diameter	Pieces per Reel	Bulk Pkg. Quantity
PWR2010	$\frac{12.0}{(0.472)}$	$\frac{330}{(13.0)}$	2500	200
PWR3014	$\frac{16.0}{(0.629)}$		1500	200
PWR4318	$\frac{24.0}{(0.945)}$		1500	100
PWR5322	$\frac{24.0}{(0.945)}$		1500	100

## Soldering Profile



## Typical Part Marking



## How to Order

**PWR4318 W 10R0 J E**

Model \_\_\_\_\_  
PWR2010  
PWR3014  
PWR4318  
PWR5322

Type \_\_\_\_\_  
W = Wirewound  
N = Non-inductive Option

Special Version \_\_\_\_\_  
Blank = Default

Resistance Value \_\_\_\_\_  
<100 ohms ... "R" represents decimal point (examples: 7R50 = 7.5 Ω; R050 = 0.050 Ω)  
≥100 ohms... First three digits are significant, fourth digit represents number of zeros to follow (examples: 2000 = 200 ohms; 2002 = 20K ohms)

Resistance Tolerance \_\_\_\_\_  
J = 5 %  
F = 1 %  
D = 0.5 %

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

REV. 03/17

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