



Features

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

Applications

- Telecommunications
- Audio equipment
- Medical equipment (low/medium risk)**
- 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 1 % Based on E24+E96 Series 5 % Based on E24 Series | 0.005 Ω - 1.2K Ω | 0.005 Ω - 5K Ω | 0.005 Ω - 12K Ω | 0.01 Ω - 20K Ω |
| Resistance Range (Non-inductive Versions) Based on E24 Series | 0.1 Ω - 200 Ω | 0.1 Ω - 1K Ω | 0.1 Ω - 2.4K Ω | 0.1 Ω - 4K Ω |
| Tolerance | 0.5 % / 1 % / 5 % | | | |
| Temperature Coefficient <0.1 Ω 0.1 - 0.99 Ω 1.0 - 10 Ω >10 Ω | ±200 PPM/°C ±90 PPM/°C ±50 PPM/°C ±20 PPM/°C | | | |
| Operating Temperature | -55 ° to 155 °C | | | |
| Maximum Voltage | $\sqrt{P \cdot R}$ | | | |

Environmental Characteristics

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

Environmental Characteristics (Cont'd)

Moisture Sensitivity Level..... 1
ESD Classification (HBM) N/A

Physical Characteristics

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



WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

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Specifications are subject to change without notice.

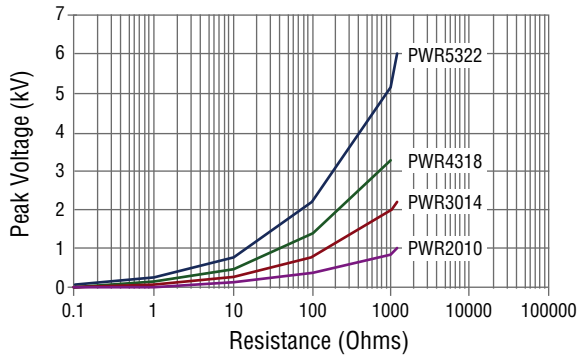
Users should verify actual device performance in their specific applications.

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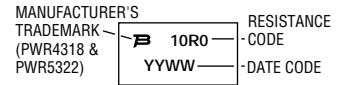
PWR2010/3014/4318/5322 - Surface Mount Wirewound Resistors



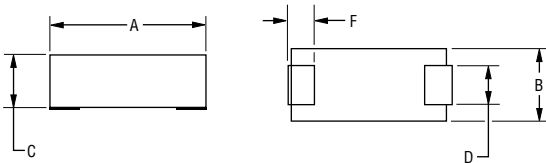
Surge Performance (IEC 61000-4-5 1.2 μs / 50 μs)



Typical Part Marking

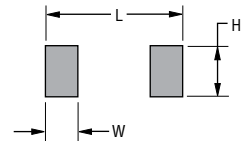


Product Dimensions



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

Recommended Pad Layout

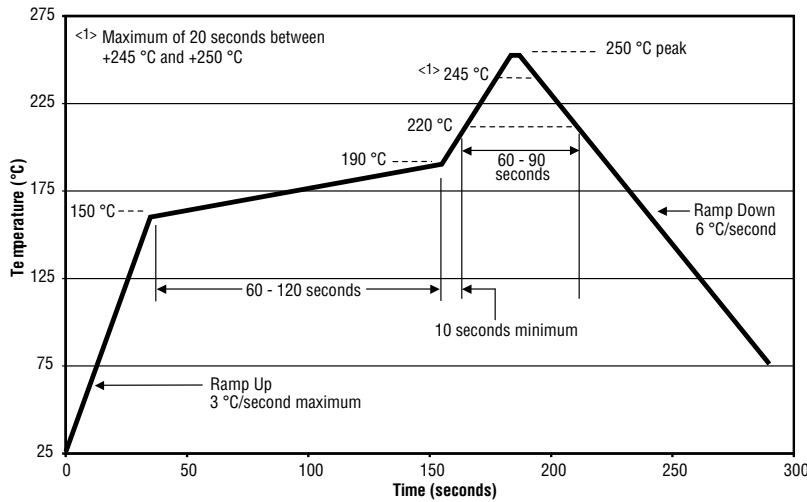


| Model | A | F | L | C | B | D | W | H |
|---------|-----------------------|------------------------|------------------------|------------------------|------------------------|-------------------------|------------------------|------------------------|
| PWR2010 | $\frac{5.08}{(0.20)}$ | $\frac{1.28}{(0.05)}$ | $\frac{6.48}{(0.255)}$ | $\frac{3.25}{(0.128)}$ | $\frac{2.54}{(0.10)}$ | $\frac{1.663}{(0.065)}$ | $\frac{1.98}{(0.078)}$ | $\frac{2.16}{(0.085)}$ |
| 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 | $\frac{13.5}{(0.53)}$ | $\frac{2.50}{(0.098)}$ | $\frac{14.9}{(0.587)}$ | $\frac{5.65}{(0.229)}$ | $\frac{5.50}{(0.217)}$ | $\frac{4.20}{(0.165)}$ | $\frac{3.70}{(0.146)}$ | $\frac{4.20}{(0.165)}$ |

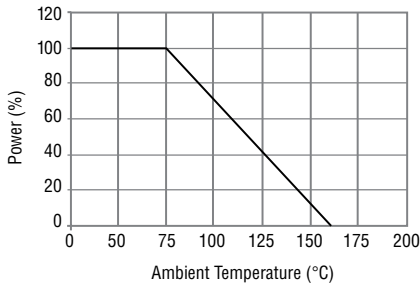
Packaging Specifications

| Model | Tape Width | Reel Diameter | Pieces per Reel | Bulk Pkg. Quantity |
|---------|------------------------|---------------|-----------------|--------------------|
| PWR2010 | $\frac{12.0}{(0.472)}$ | 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 |

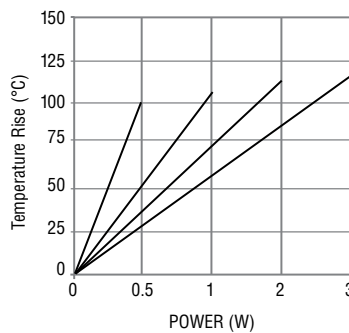
Soldering Profile



Power Derating Curve



Temperature Rise



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

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