



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.

Additional Information

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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	0.05 Ω - 500 Ω	0.05 Ω - 4.2K Ω	0.05 Ω - 6K Ω	0.05 Ω - 10K Ω
Resistance Range (Non-inductive Versions) Based on E24 Series	0.05 Ω - 120 Ω	0.05 Ω - 500 Ω	0.05 Ω - 1.5K Ω	0.05 Ω - 2.2K Ω
Tolerance	0.5 % / 1 % / 5 %			
Temperature Coefficient <0.1 Ω 0.1 - 0.99 Ω 1.0 - 10 Ω >10 Ω	± 200 PPM/ $^{\circ}$ C ± 90 PPM/ $^{\circ}$ C ± 50 PPM/ $^{\circ}$ C ± 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 ± 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 ± 0.5 seconds	$\Delta R \pm(0.5 \% +0.05 \Omega)$
Dielectric Strength	Test voltage >500 Vrms for greater than one minute	Pass
Insulation Resistance	Test voltage greater than 500 Vrms for one minute	>1000 G Ω
High Temperature Exposure	Ambient temperature of 175 $^{\circ}$ C +5 $^{\circ}$ C/-0 $^{\circ}$ C for 250 ± 8 hours	$\Delta R \pm(2.0 \% +0.05 \Omega)$
Low Temperature Exposure	Ambient Temperature of -65 $^{\circ}$ C $\pm 2^{\circ}$ C for 24 hours ± 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	$\Delta R \pm(2.0 \% +0.05 \Omega)$



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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Environmental Characteristics (Cont'd)

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

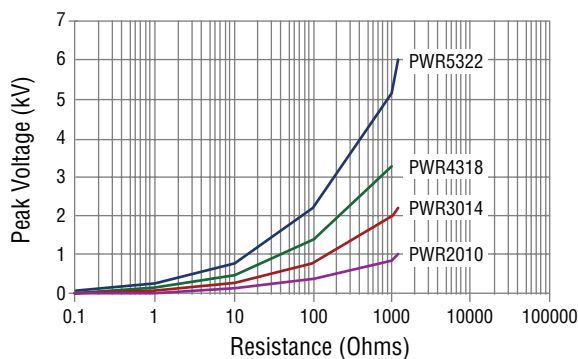
Physical Characteristics

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

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



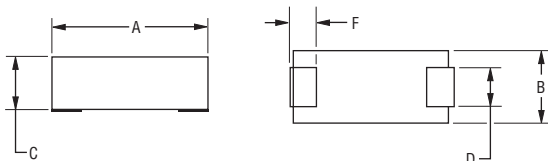
Typical Part Marking

MANUFACTURER'S
TRADEMARK (PWR4318 &
PWR5322)

RESISTANCE
CODE
10R0

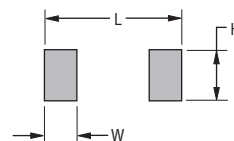
DATE CODE
YYWW

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

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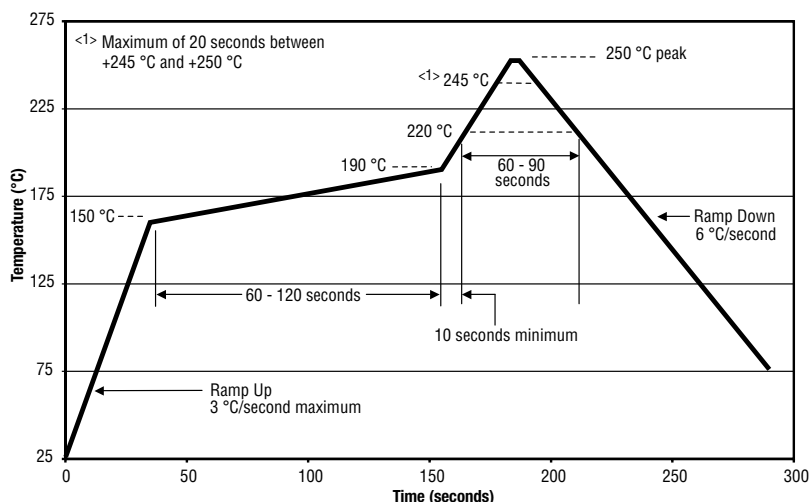
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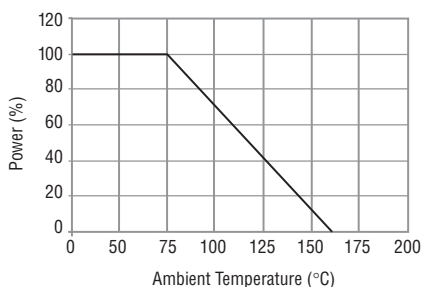
PWR2010/3014/4318/5322 - Surface Mount Wirewound Resistors

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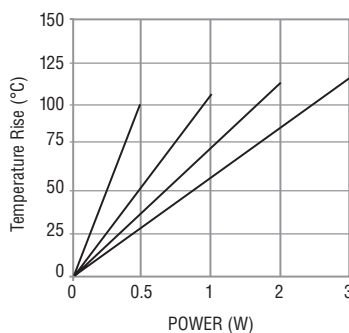
Soldering Profile



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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REV. 03/24

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