



Features

- Superior pulse capability
- Very high power – up to 10 W
- Excellent surge capabilities
- Super low TCR
- Non-inductive versions available
- UL 94V0, RoHS* and SVHC compliant
- Halogen free model available

Applications

- High power discharging applications
- Telecommunications
- Switching power supplies
- Motor controls
- High pulse withstanding applications

PWR6927/8030/8937/A247/B053 Power Wirewound Resistors

General Information

The Model PWR6927/8030/8937/A247/B053 Series surface mount wirewound resistors boast a high power density and excellent pulse power characteristics. These models can be used in a wide range of applications where surge voltages or inrush currents are present.

Additional Information

Click these links for more information:



Electrical Characteristics

Parameter	PWR6927	PWR8030	PWR8937	PWRA247	PWRB053
Power	3 W	5 W	5 W	7 W	10 W
Resistance Range 1 % Based on E24+E96 Series 5 % Based on E24 Series	0.05 Ω - 16K Ω	0.1 Ω - 22K Ω	0.1 Ω - 33K Ω	0.1 Ω - 50K Ω	0.1 Ω - 70K Ω
Resistance Range (Non-inductive Versions) Based on E24 Series	0.05 Ω - 3.3K Ω	0.05 Ω - 4K Ω	0.05 Ω - 6K Ω	0.05 Ω - 8K Ω	0.05 Ω - 10K
Tolerance	0.5 % / 1 % / 5 %				
Temperature Coefficient <0.1 Ω 0.1 - 0.99 Ω 1.0 - 10 Ω >10 Ω	$\pm 300 \text{ PPM/}^{\circ}\text{C}$ $\pm 90 \text{ PPM/}^{\circ}\text{C}$ $\pm 50 \text{ PPM/}^{\circ}\text{C}$ $\pm 20 \text{ PPM/}^{\circ}\text{C}$				
Operating Temperature	-65 °C to +175 °C				
Maximum Voltage	$\sqrt{P^*R}$				

Performance

Test	Description	Specification
Load Life	Chamber temp. 70 ± 2 °C, voltage cycle: rated d.c. voltage application 1hr. 30 min. and rest of 30 min. repeatedly for 1K hrs.	$\Delta R \pm 1.0 \%$
Short Time Overload	0.25 W ~ 4 W: 5X rated power for 5 seconds 5 W ~ 10 W: 10X rated power for 5 seconds	$\Delta R \pm (0.5 \% + 0.05 \Omega)$
Periodic Pulse Overload	4X power, 1 s. ON, 25 s. OFF, 10000 +400/-0 cycles	$\Delta R \pm (0.5 \% + 0.05 \Omega)$
Shock	Impact acceleration 100 g, pulse duration 6 ms, 18 shocks	$\Delta R \pm (0.1 \% + 0.05 \Omega)$
Vibration	10 Hz to 2 KHz, 1 oct/min., 20 g, 3 axis, 7.5 hrs.	$\Delta R \pm (0.1 \% + 0.05 \Omega)$
Thermal Shock	-55 °C to +150 °C +3/-0 °C, 5 cycles, 15 min. in max.	$\Delta R \pm 1 \%$
Solderability	Bath temperature 250 ± 3 °C, immersion time 3 ± 0.3 sec.	>95 % of contact face covered new solder
Resistance to Solder Heat	Immersion in solder 260 °C ± 5 °C for 10 ± 0.3 seconds	$\Delta R \pm (0.5 \% + 0.05 \Omega)$
Insulation Resistance	Apply max. overload voltage, duration 1 minute	>1G Ω
Dielectric Strength	Test voltage 500 V ± 10 %, duration 1 minute	Pass

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

** Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

Specifications are subject to change without notice.

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WARNING

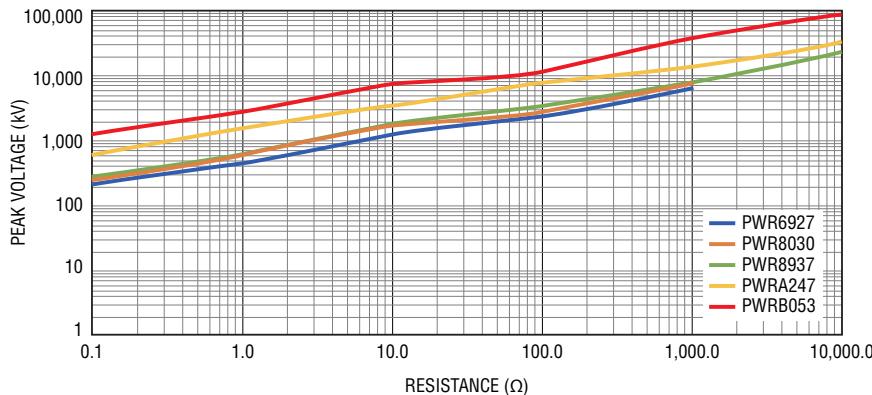
Cancer and Reproductive Harm

www.P65Warnings.ca.gov

PWR6927/8030/8937/A247/B053 Power Wirewound Resistors

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



Environmental Characteristics (Cont'd)

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

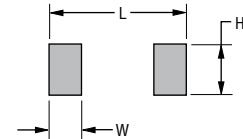
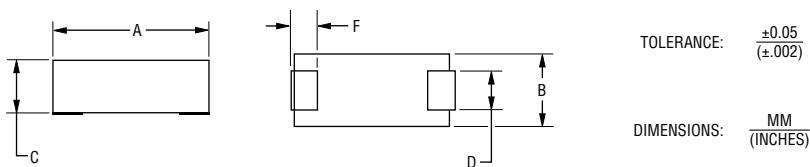
Physical Characteristics

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

Typical Part Marking



Product Dimensions



Model	A	F	L	C	B	D	W	H
PWR6927	<u>17.50</u> (0.689)	<u>2.50</u> (0.098)	<u>18.5</u> (0.728)	<u>6.80</u> (0.267)	<u>6.92</u> (0.272)	<u>4.80</u> (0.189)	<u>3.50</u> (0.138)	<u>6.00</u> (0.236)
PWR8030	<u>20.80</u> (0.820)	<u>3.00</u> (0.118)	<u>21.8</u> (0.858)	<u>7.80</u> (0.307)	<u>7.60</u> (0.299)	<u>4.80</u> (0.189)	<u>4.00</u> (0.157)	<u>5.50</u> (0.217)
PWR8937	<u>22.50</u> (0.886)	<u>3.00</u> (0.118)	<u>23.9</u> (0.941)	<u>10.30</u> (0.406)	<u>9.20</u> (0.362)	<u>9.20</u> (0.362)	<u>4.30</u> (0.169)	<u>10.0</u> (0.394)
PWRA247	<u>30.60</u> (1.205)	<u>3.50</u> (0.138)	<u>32.0</u> (1.260)	<u>13.00</u> (0.512)	<u>12.0</u> (0.472)	<u>11.80</u> (0.465)	<u>4.80</u> (0.189)	<u>12.7</u> (0.500)
PWRB053	<u>51.60</u> (2.030)	<u>2.00</u> (0.079)	<u>53.0</u> (2.087)	<u>15.00</u> (0.591)	<u>13.6</u> (0.535)	<u>13.6</u> (0.535)	<u>3.40</u> (0.134)	<u>14.3</u> (0.563)

Packaging Specifications

Model	Tape Width	Reel Diameter	Pieces per Reel
PWR6927	<u>32.0</u> (1.259)	<u>330</u> (13.0)	500
PWR8030			300
PWR8937	<u>44.0</u> (1.732)	<u>330</u> (13.0)	200
PWRA247			100
PWRB053	<u>72.0</u> (2.835)		

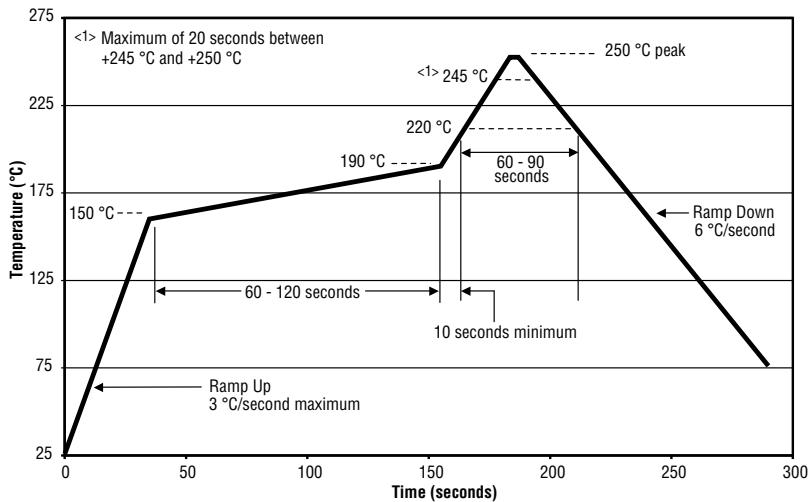
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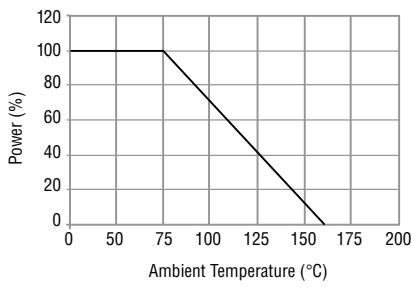
Soldering Profile



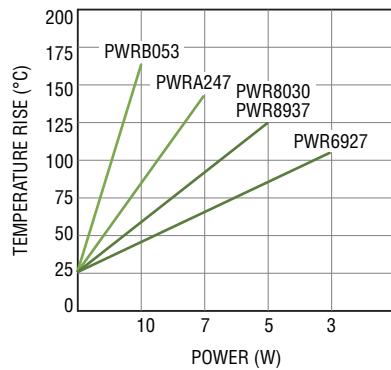
How to Order

PWR6927	W	10R0	J	E
Model				
PWR6927				
PWR8030				
PWR8937				
PWRA247				
PWRB053				
Type	W = Wirewound	N = Non-inductive Option		
Special Version	Blank = Default	H = Halogen Free		
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			

Power Derating Curve



Temperature Rise



BOURNS®

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