

## 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	±300 PPM/°C ±90 PPM/°C ±50 PPM/°C ±20 PPM/°C				
Operating Temperature	-65 °C to +175 °C				
Maximum Voltage	$\sqrt{P \cdot R}$				

### 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.	ΔR ±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	ΔR ±(0.5 % +0.05 Ω)
Periodic Pulse Overload	4X power, 1 s. ON, 25 s. OFF, 10000 +400/-0 cycles	ΔR ±(0.5 % +0.05 Ω)
Shock	Impact acceleration 100 g, pulse duration 6 ms, 18 shocks	ΔR ±(0.1 % +0.05 Ω)
Vibration	10 Hz to 2 KHz, 1 oct/min., 20 g, 3 axis, 7.5 hrs.	ΔR ±(0.1 % +0.05 Ω)
Thermal Shock	-55 °C to +150 °C +3/-0 °C, 5 cycles, 15 min. in max.	ΔR ±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	ΔR ±(0.5 % +0.05 Ω)
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.

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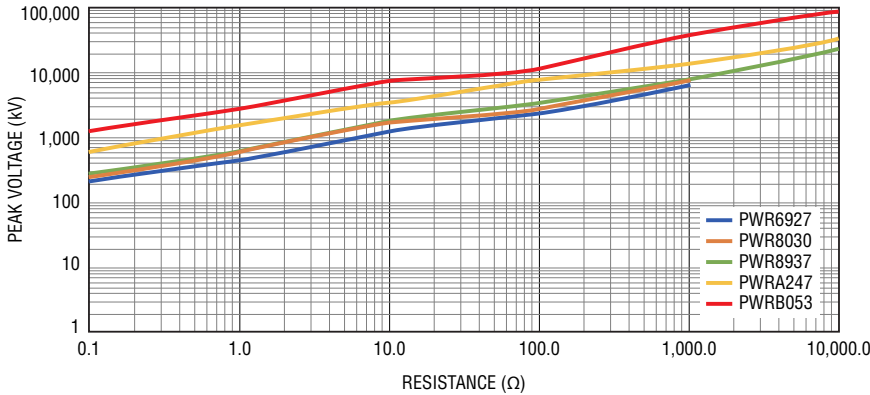


**WARNING**  
**Cancer and Reproductive Harm**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

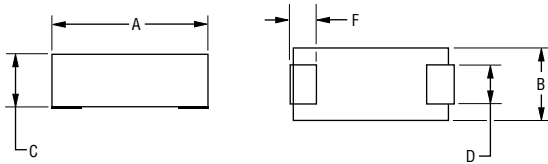
# PWR6927/8030/8937/A247/B053 Power Wirewound Resistors



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



## Product Dimensions



TOLERANCE:  $\frac{\pm 0.05}{(\pm .002)}$   
 DIMENSIONS:  $\frac{\text{MM}}{(\text{INCHES})}$

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

## Packaging Specifications

Model	Tape Width	Reel Diameter	Pieces per Reel
PWR6927	$\frac{32.0}{(1.259)}$	$\frac{330}{(13.0)}$	500
PWR8030			
PWR8937	$\frac{44.0}{(1.732)}$		300
PWRA247			200
PWRB053			100

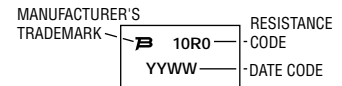
## Environmental Characteristics (Cont'd)

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

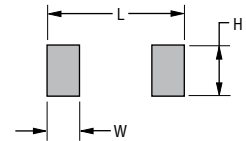
## Physical Characteristics

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

## Typical Part Marking

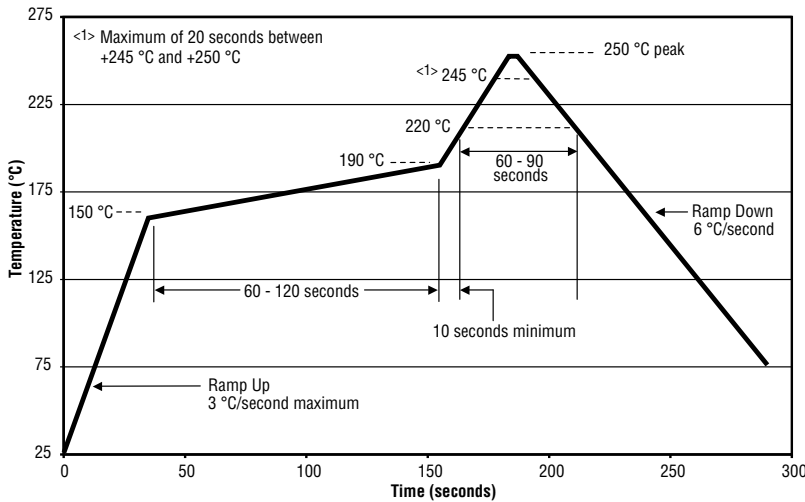


## Recommended Pad Layout

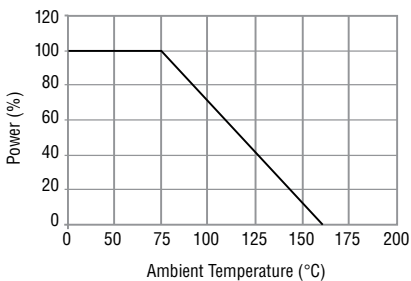


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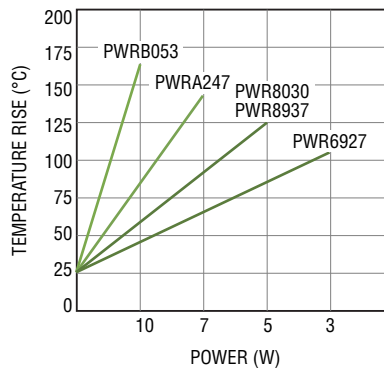
**Soldering Profile**



**Power Derating Curve**



**Temperature Rise**



**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

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