



Features

- D²PAK housing
- Low inductance
- Resistor electrically isolated from the backplate
- High power rating
- Compatible with lead free solder reflow temperatures

- RoHS compliant*

Applications

- Power supplies
- Motor drives
- Test and measurement
- Rectifiers

PWR263 Series Power Resistor

General Information

Bourns® PWR263 Series is a TO263 DPAK style power resistor. Manufactured using thick film on alumina ceramic technology, it is used in current measurement, snubber, bleeder and discharge circuits.

Electrical & Thermal Characteristics

Parameter	Value(s)
Resistance (See table of standard values)	0.5 Ω to 130 K Ω
Power Rating @ 25 °C Case Temperature	20 W
Tolerance	$\pm 1\%$, $\pm 5\%$
TCR 0.5 Ω < R < 130.0 K Ω	± 100 PPM/°C
Thermal Resistance - R _{thj}	6.5 °C/W
Inductance	0.1 μ H maximum
Operating Voltage	$\sqrt{P \cdot R}$ with a maximum of 250 V
Dielectric Strength	2 KV AC
Insulation Resistance	10 G Ω
Operating Temperature	-55 °C to 155 °C

Reliability Characteristics

Parameter	Specification
Short Term Overload (2x Pr for R < 2 Ω , 1.6 x Pr for R $\geq$ 2 Ω , V < 1.5 x Operating Voltage)	ΔR $\pm 0.25\%$
Load Life (1000 hours at rated power)	ΔR $\pm 1.0\%$
Thermal Shock (-55 °C to 155 °C, 5 cycles)	ΔR $\pm 0.5\%$
Resistance to Soldering Heat (10 seconds at 270 °C)	ΔR $\pm 0.5\%$
Vibration (20 G 10-2000 Hz .06 " D.A.)	ΔR $\pm 0.25\%$
Moisture Sensitivity Level	1

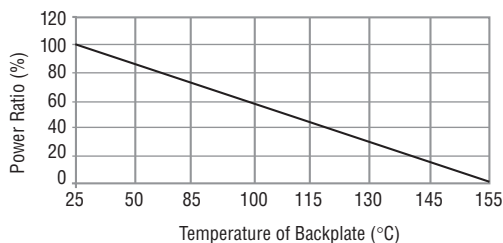
Material Characteristics

Resistor Thick film
Substrate Alumina (AL203)
Housing Epoxy
Pins Tinned Copper (Sn/Cu)
Flammability Conforms to UL-94V0

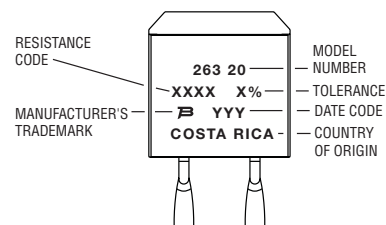
Standard Resistance Values

Code	Resistance Value	Code	Resistance Value
R500	0.5	47R0	47
R750	0.75	56R0	56
1R00	1	75R0	75
1R50	1.5	1000	100
2R00	2	2000	200
2R50	2.5	3300	330
3R00	3	4700	470
3R30	3.3	7500	750
4R70	4.7	1001	1000
7R50	7.5	3301	3300
10R0	10	1002	10000
15R0	15	3002	30000
20R0	20	1003	100000
30R0	30	1303	130000
33R0	33		

Derating Curve



Typical Part Marking



*RoHS Directive 2002/95/EC Jan 27 2003 including Annex.

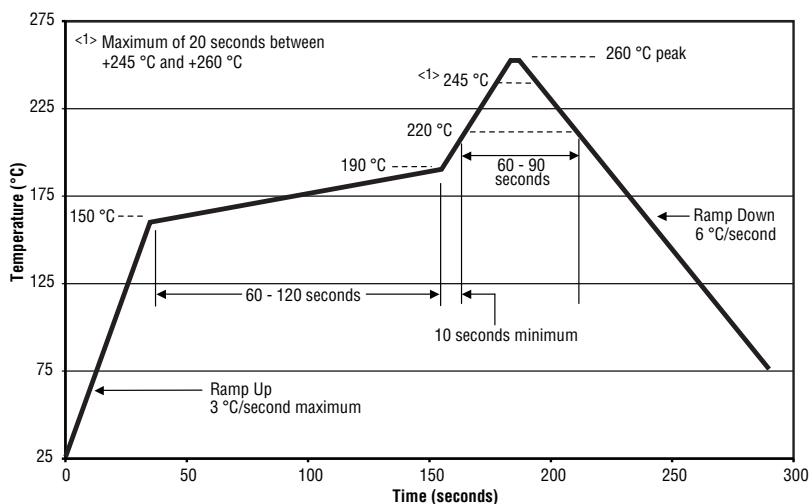
Specifications are subject to change without notice.

Customers should verify actual device performance in their specific applications

PWR263 Series Power Resistor

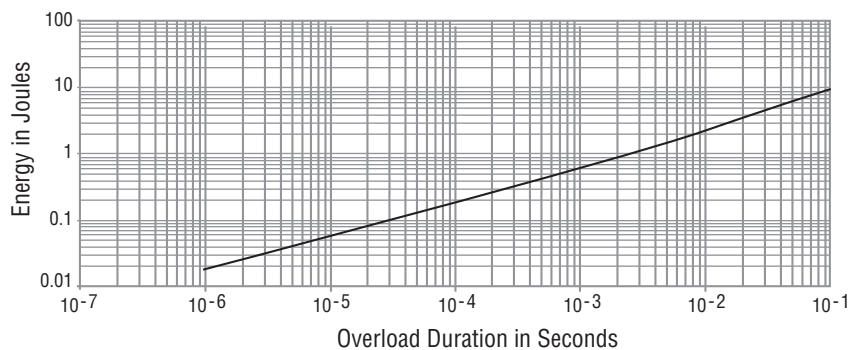
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Soldering Profile



Power dissipation is 2.8 W at an ambient temperature of 25 °C when mounted on a double-sided copper board using FR4 standard, 70 µm of copper, 39 x 30 x 1.6 mm.

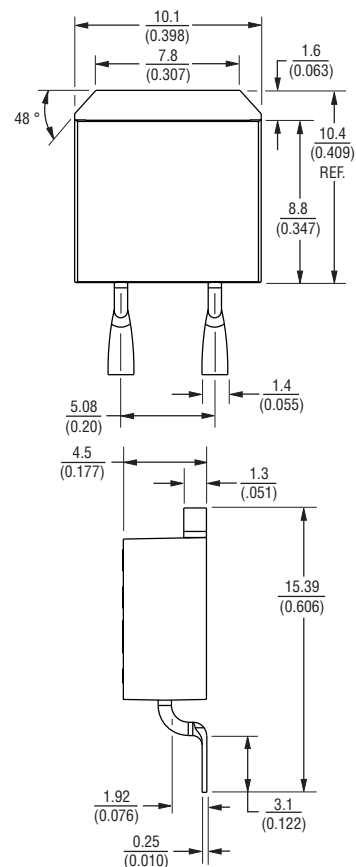
Pulse Power Rating



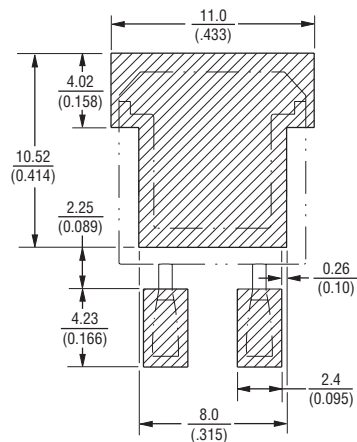
The energy absorbed by the resistor expressed in Joules can be calculated by multiplying the peak power of the pulse in watts times the length of the pulse in seconds.

The energy should not exceed the limits shown in the graph. The overload voltage should not exceed 1.5 times the maximum operating voltage.

Product Dimensions



Recommended Pad Layout



DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

TOLERANCE: $\frac{\pm 0.38}{(\pm 0.015)}$ UNLESS OTHERWISE NOTED

LEAD $\frac{0.102}{(0.004)}$ MAX AT MOUNTING
COPLANARITY: $\frac{0.102}{(0.004)}$ SURFACE

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PWR263 Series Power Resistor

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How to Order

PWR 263 S - 20 - 10R0 F E

Model _____
PWR = Power Resistor

Package _____
263 = D²PAK

Pin Style _____
S = Surface Mount

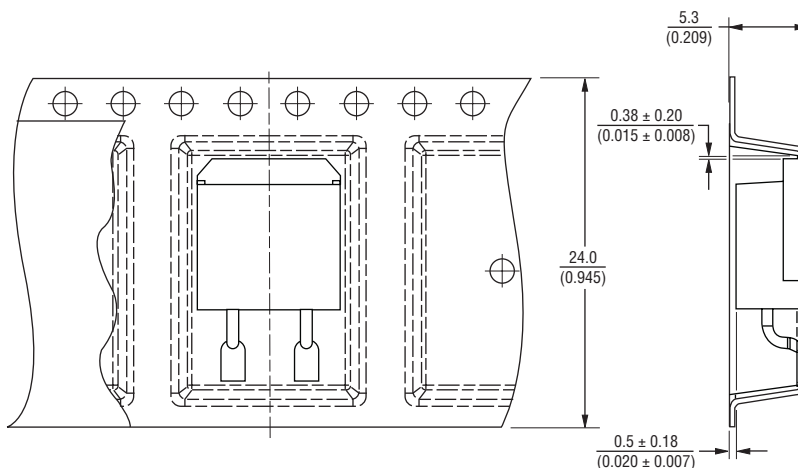
Power _____
20 = 20 W

Resistance Value _____
<100 ohms ... "R" represents decimal point (examples: 7R50 = 7.5 Ω; R500 = 0.5 Ω)
≥100 ohms ... First three digits are significant, fourth digit represents number of zeros to follow (examples: 2000 = 200 ohms; 3002 = 30K ohms)

Absolute Tolerance _____
J = 5 %
F = 1 %

Packaging _____
E = Tape & Reel
Blank = Tubes

Packaging Specifications



DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

TOLERANCE: $\frac{\pm 0.38}{(\pm 0.015)}$ UNLESS OTHERWISE NOTED



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