



Features

- D²PAK housing
- Low inductance
- Resistor electrically isolated from the backplate
- High power rating
- Compatible with lead free solder reflow temperatures
- AEC-Q200 qualified
- RoHS compliant*

Applications

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

PWR263S-20 Series Power Resistor

General Information

Bourns® PWR263S-20 Series is a TO263 DPAK style power resistor manufactured using thick film on alumina ceramic technology, and used in current measurement, snubber, bleeder and discharge circuits.

Electrical & Thermal Characteristics

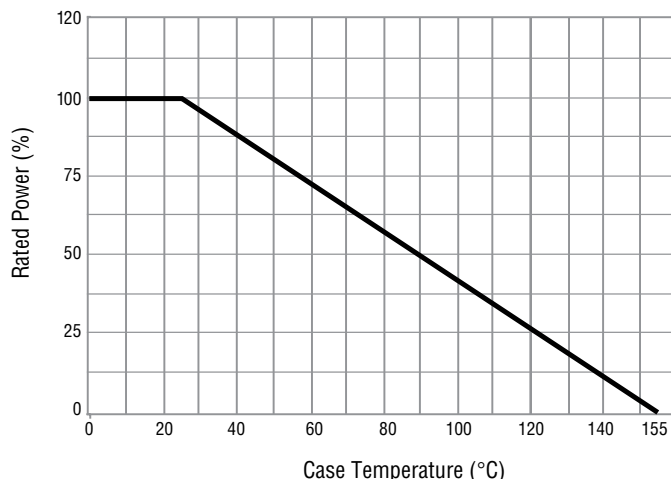
Parameter	Value(s)
Resistance (See Popular Resistance Values table)	0.02 Ω to 130 KΩ
Power Rating @ 25 °C Case Temperature	20 W
Tolerance	±1 %**, ±5 %
TCR 0.02 Ω<R<130.0K Ω	±100 PPM/°C
Thermal Resistance - R _{thj}	6.5 °C/W
Inductance	0.1 μH maximum
Operating Voltage	√P*R with a maximum of 250 V
Dielectric Strength	2 KV AC
Insulation Resistance	10 GΩ
Operating Temperature	-55 °C to 155 °C

** Available for most values. Check Popular Resistance Values table.

Reliability Characteristics

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

Power Derating Curve



*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.

Material Characteristics

Resistor Thick film
Substrate Alumina (AL2O3)
Housing Epoxy
Pins..... Tinned Copper (Sn/Cu)
Flammability Conforms to UL-94V0

Popular Resistance Values

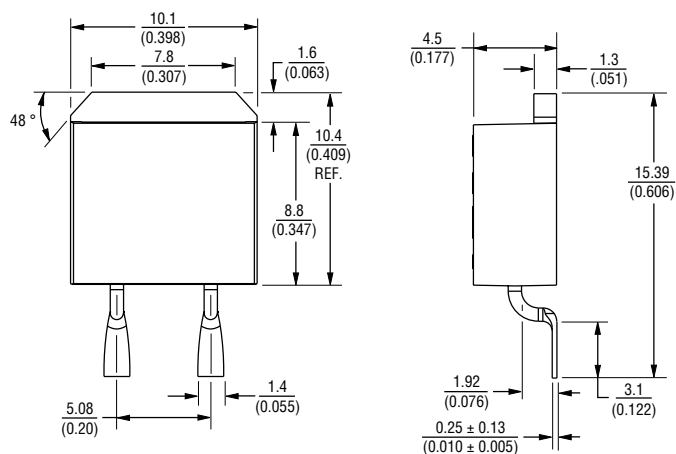
Code	Resistance Value	Code	Resistance Value
R020	0.02 Ω***	1000	100 Ω
R025	0.025 Ω***	1200	120 Ω
R030	0.03 Ω***	1500	150 Ω
R033	0.033 Ω***	2000	200 Ω
R040	0.04 Ω***	2500	250 Ω
R050	0.05 Ω***	3000	300 Ω
R075	0.075 Ω***	3300	330 Ω
R100	0.1 Ω	4000	400 Ω
R150	0.15 Ω	4700	470 Ω
R200	0.2 Ω	5000	500 Ω
R250	0.25 Ω	5600	560 Ω
R300	0.3 Ω	7500	750 Ω
R330	0.33 Ω	1001	1.0 KΩ
R400	0.4 Ω	1501	1.5 KΩ
R500	0.5 Ω	2001	2.0 KΩ
R750	0.75 Ω	2501	2.5 KΩ
1R00	1 Ω	3001	3.0 KΩ
1R50	1.5 Ω	3301	3.3 KΩ
2R00	2 Ω	4001	4.0 KΩ
2R50	2.5 Ω	5001	5.0 KΩ
3R00	3 Ω	7501	7.5 KΩ
3R30	3.3 Ω	1002	10 KΩ
4R00	4 Ω	1502	15 KΩ
5R00	5 Ω	2002	20 KΩ
7R50	7.5 Ω	2502	25 KΩ
8R00	8 Ω	3002	30 KΩ
10R0	10 Ω	3302	33 KΩ
12R0	12 Ω	4002	40 KΩ
15R0	15 Ω	4702	47 KΩ
20R0	20 Ω	5002	50 KΩ
25R0	25 Ω	5602	56 KΩ
27R0	27 Ω	6802	68 KΩ
30R0	30 Ω	7502	75 KΩ
33R0	33 Ω	8202	82 KΩ
40R0	40 Ω	1003	100 KΩ
47R0	47 Ω	1153	115 KΩ
50R0	50 Ω	1203	120 KΩ
56R0	56 Ω	1253	125 KΩ
75R0	75 Ω	1303	130 KΩ

*** 5 % Tolerance

PWR263S-20 Series Power Resistor

BOURNS®

Product Dimensions



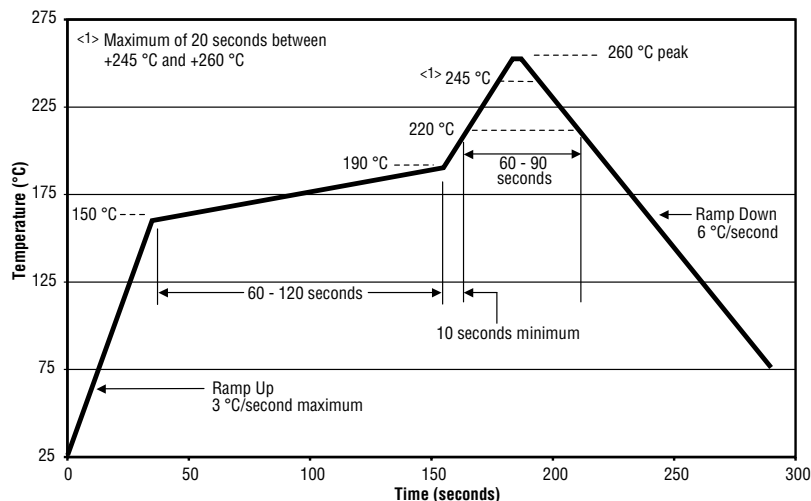
1 2
BACKPLANE
ELECTRICALLY
ISOLATED

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

TOLERANCE: ± 0.38
(± 0.015) UNLESS OTHERWISE NOTED

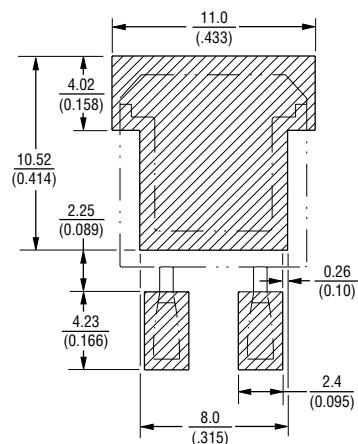
LEAD $\frac{0.102}{(0.004)}$ MAX AT MOUNTING
COPLANARITY: $\frac{0.102}{(0.004)}$ SURFACE

Soldering Profile

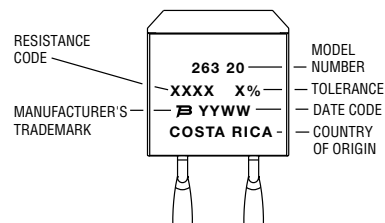


Power dissipation is 2.8 W at an ambient temperature of 25 °C when mounted on a double-sided copper board using FR4 standard, 70 μm of copper, 39 x 30 x 1.6 mm.

Recommended Pad Layout



Typical Part Marking



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

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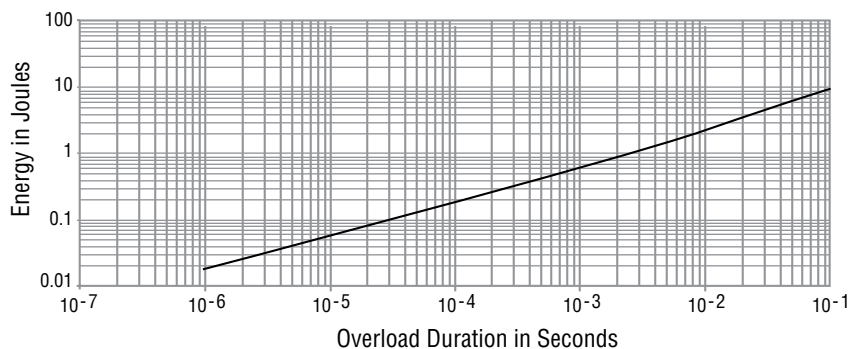
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

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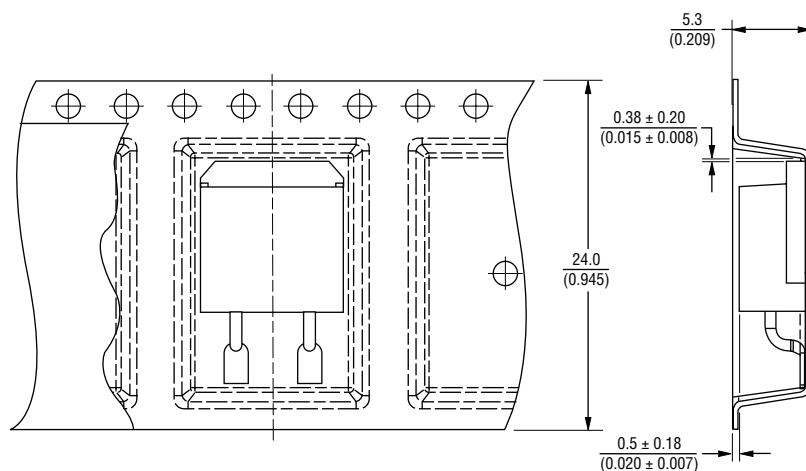
Pulse Power Rating



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.

Packaging Specifications



DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$
TOLERANCE: $\frac{\pm 0.38}{(\pm 0.015)}$ UNLESS OTHERWISE NOTED

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REV. 07/16

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Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Bourns:

PWR263S-20-30R0J	PWR263S-20-33R0F	PWR263S-20-3R00J	PWR263S-20-3R00F	PWR263S-20-56R0F
PWR263S-20-30R0F	PWR263S-20-56R0J	PWR263S-20-27R0J	PWR263S-20-R750J	PWR263S-20-15R0F
PWR263S-20-R750F	PWR263S-20-15R0J	PWR263S-20-1003F	PWR263S-20-1000J	PWR263S-20-12R0F
PWR263S-20-4R70J	PWR263S-20-4R70F	PWR263S-20-5R60J	PWR263S-20-47R0F	PWR263S-20-5R60F
PWR263S-20-27R0F	PWR263S-20-47R0J	PWR263S-20-3R30J	PWR263S-20-1001F	PWR263S-20-1003J
PWR263S-20-3R30F	PWR263S-20-1000F	PWR263S-20-3002J	PWR263S-20-3300F	PWR263S-20-1303F
PWR263S-20-7R50F	PWR263S-20-2R00J	PWR263S-20-3301F	PWR263S-20-R500J	PWR263S-20-3301J
PWR263S-20-1R50J	PWR263S-20-1R00J	PWR263S-20-75R0F	PWR263S-20-1R50F	PWR263S-20-2R50J
PWR263S-20-R500F	PWR263S-20-33R0J	PWR263S-20-4700J	PWR263S-20-75R0J	PWR263S-20-10R0F
PWR263S-20-1303J	PWR263S-20-2R00F	PWR263S-20-4700F	PWR263S-20-3002F	PWR263S-20-1R00F
PWR263S-20-2R50F	PWR263S-20-7R50J	PWR263S-20-3300J	PWR263S-20-10R0J	PWR263S-20-1001J
PWR263S-20-20R0J	PWR263S-20-1002J	PWR263S-20-1002F	PWR263S-20-12R0J	PWR263S-20-20R0F
PWR263S-20-1R50JE	PWR263S-20-LAB1	PWR263S-20-1502J	PWR263S-20-1502F	PWR263S-20-1300J
PWR263S-20-50R0J	PWR263S-20-3R30JE	PWR263S-20-6R20FE	PWR263S-20-2R20F	PWR263S-20-4R70JE
PWR263S-20-3R00FE	PWR263S-20-1002FE	PWR263S-20-5R00F	PWR263S-20-8R20F	PWR263S-20-8R20J
PWR263S-20-2R20JE	PWR263S-20-3300JE	PWR263S-20-40R0J	PWR263S-20-2000F	PWR263S-20-R680F
PWR263S-20-50R0F	PWR263S-20-2R20J	PWR263S-20-10R0FE	PWR263S-20-50R0JE	PWR263S-20-20R0FE
PWR263S-20-47R0FE	PWR263S-20-2R00FE	PWR263S-20-8R20FE	PWR263S-20-1R30F	PWR263S-20-47R0JE
PWR263S-20-2000J	PWR263S-20-R330J	PWR263S-20-25R0J	PWR263S-20-7R50JE	