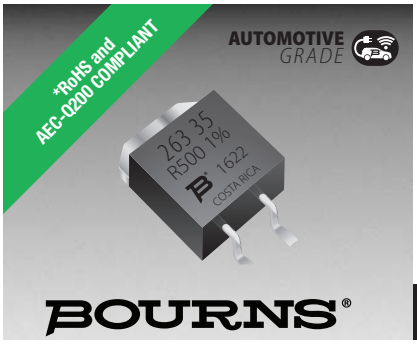



## Features

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

# PWR263S-35 Series Power Resistor

## General Information

Bourns® PWR263S-35 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

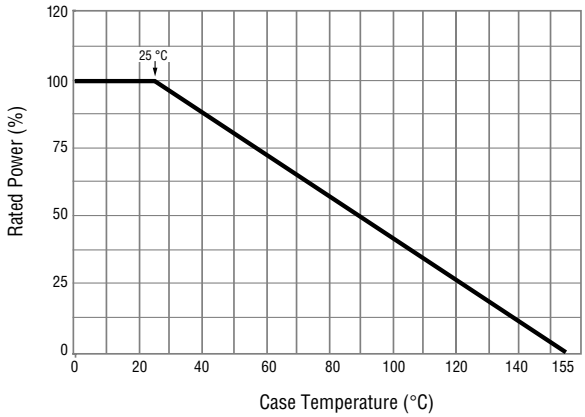
| Parameter | Value(s) |
|---|---|
| Resistance<br>(See Popular Resistance Values table) | 0.02 Ω to 130 KΩ |
| Power Rating @ 25 ˚C Case Temperature | 35 W |
| Tolerance | ±1 %**, ±5 % |
| TCR<br>0.02 Ω<R<130.0K Ω | ±100 PPM/˚C |
| Thermal Resistance - $R_{thj}$ | 3.7 ˚C/W |
| Inductance | 0.1 μH maximum |
| 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,<br>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 sec. at 270 ˚C) | ΔR ±0.5 % |
| Vibration (20 G 10-2000 Hz .06 " D.A.) | ΔR ±0.25 % |
| Moisture Sensitivity Level | 1 |

## Derating Curve




**WARNING Cancer and Reproductive Harm -** www.P65Warnings.ca.gov

## Material Characteristics

Resistor ..... Thick film
Substrate ..... Alumina (AL203)
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 |

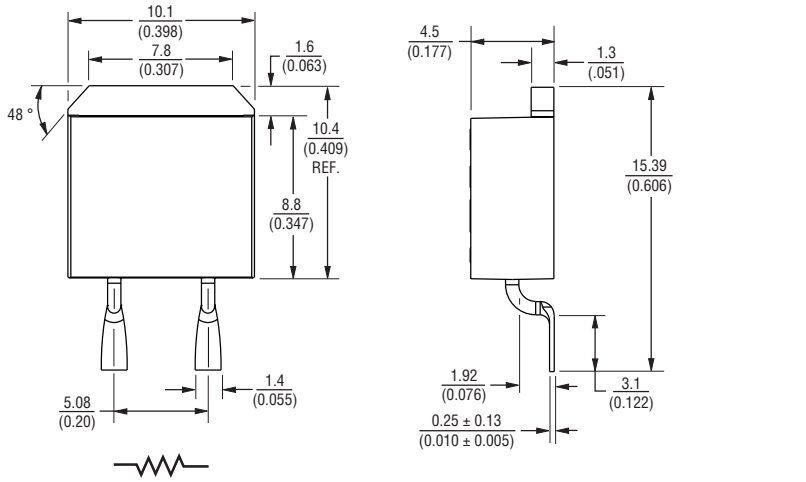
*** 5 % Tolerance

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
Specifications are subject to change without notice.
Users should verify actual device performance in their specific applications.

# PWR263S-35 Series Power Resistor

BOURNS®

## Product Dimensions

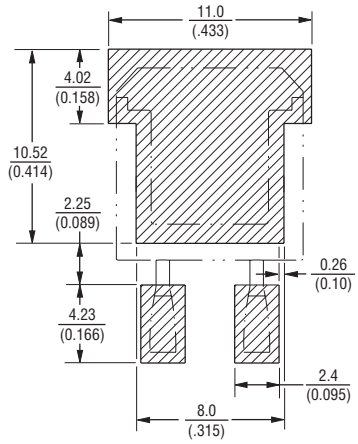



DIMENSIONS: MM (INCHES)

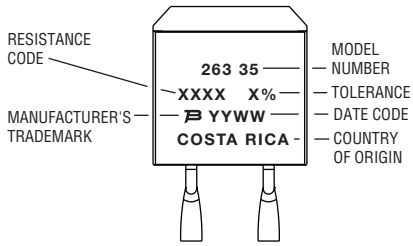
TOLERANCE: ±0.38 (±0.015) UNLESS OTHERWISE NOTED

LEAD COPLANARITY: 0.102 (0.004) MAX AT MOUNTING SURFACE

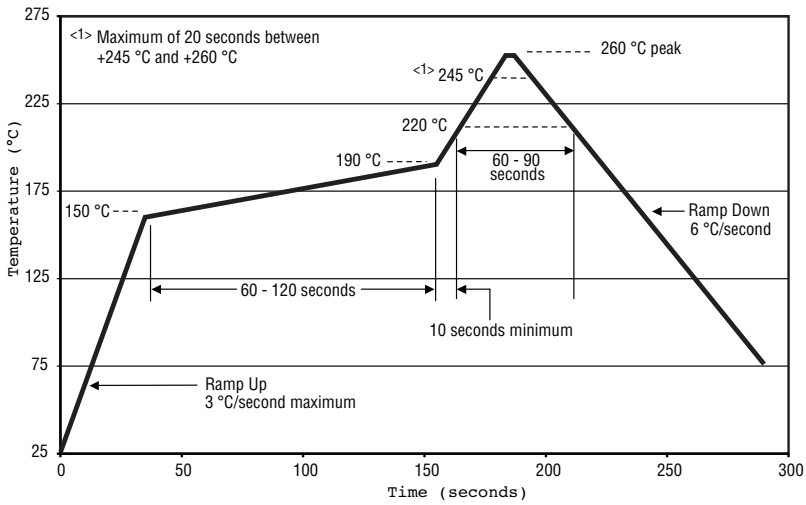
## Recommended Pad Layout




## Typical Part Marking




## Soldering Profile




Power dissipation is 3.5 W at an ambient temperature of 25 ˚C when mounted on a double-sided copper board using FR4 standard, 70 $\mu$m of copper, 39 x 30 x 1.6 mm.

## How to Order

**PWR 263 S - 35 - 10R0 F E**

Model
PWR = Power Resistor

Package
263 = D²PAK

Pin Style
S = Surface Mount

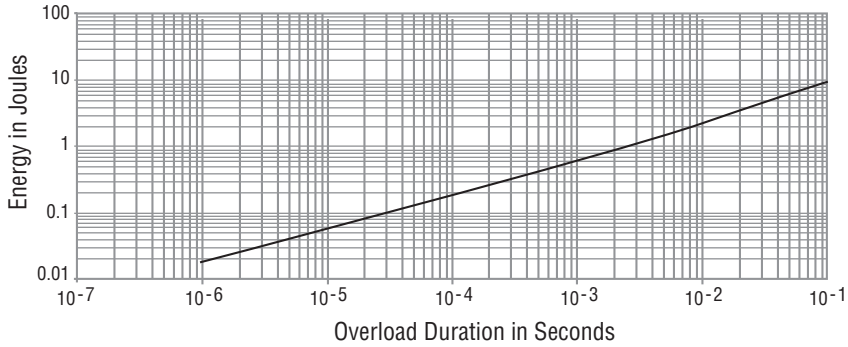
Power
35 = 35 W

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

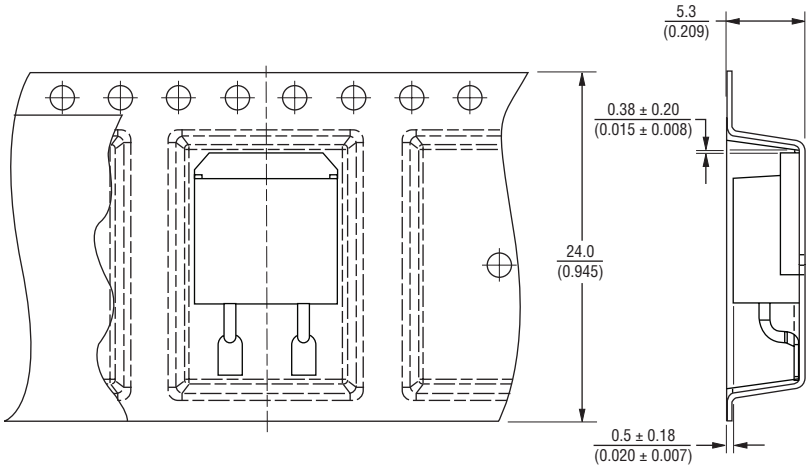
## Pulse Power Rating




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: MM (INCHES)

TOLERANCE: ±0.38 (±0.015) UNLESS OTHERWISE NOTED

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