



## Features

- Meets IEC 61000-4-5 standard
- Compact size for EIA 1812
- Quick response time (< 1.0 ns)
- High transient current capability
- RoHS compliant\*

## Applications

- Power supplies
- Entertainment electronics
- White goods

# BVR1812 SMD Series - Low Voltage Varistors

### Description

The Model BVR1812 Low Voltage Multilayered Varistor Series is designed to protect sensitive electronic devices against high voltage surges in the low voltage regions. These varistors offer excellent transient energy absorption due to improved energy volume distribution and power dissipation. The Model BVR1812 Series is available with 5.5 to 14 VDC working voltages.

Model BVR Series Varistors are typically utilized to protect integrated circuits and other components at the circuit board level.

### Additional Information

Click these links for more information:



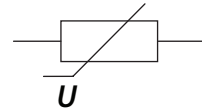
### Electrical Characteristics @ 25 °C (unless otherwise noted)

Model	V <sub>rms</sub> (V)	VDC (V)	V <sub>n</sub> Min. (V)	V <sub>n</sub> Max. (V)	V <sub>c</sub> (V)	I <sub>max</sub> (A)	C <sub>p</sub> Typ. (pF)
	<10 μA		1 mA DC		1 A @ 8/20 μs	@ 8/20 μs	@ 1 KHz
BVR1812-04	4	5.5	9	14	30	800	5400
BVR1812-10	10	14	16	22	42	800	3800

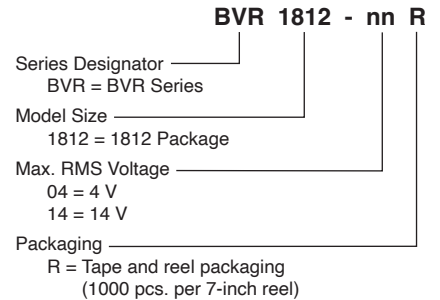
### Environmental Characteristics

Operating Temperature.....	-40 °C to +125 °C
Storage Temperature.....	-40 °C to +125 °C
Standard.....	IEC 61000-4-5
Moisture Sensitivity Level.....	1
ESD Classification (HBM).....	N/A

### Device Symbol



### How to Order



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EMEA: Tel: +36 88 885 877 • Email: [eurocus@bourns.com](mailto:eurocus@bourns.com)

The Americas: Tel: +1-951 781-5500 • Email: [americus@bourns.com](mailto:americus@bourns.com)

[www.bourns.com](http://www.bourns.com)



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

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

Specifications are subject to change without notice.

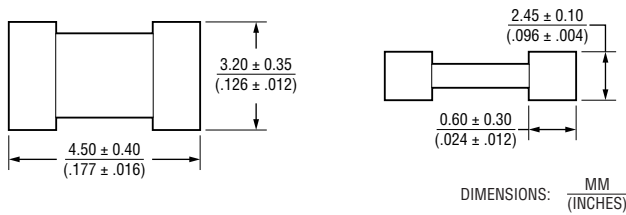
Users should verify actual device performance in their specific applications.

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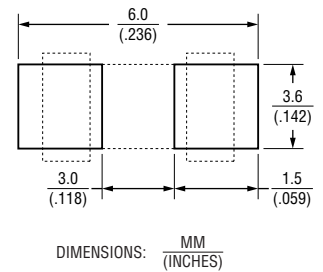
# BVR1812 SMD Series - Low Voltage Varistors



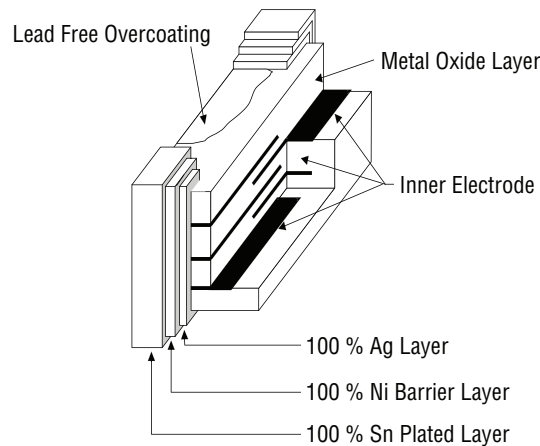
## Product Dimensions



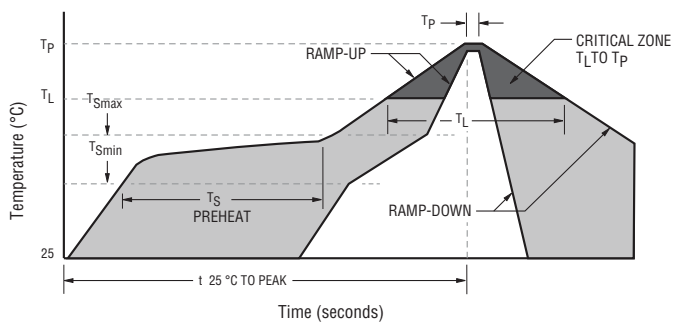
## Recommended Pad Layout



## Construction



## Solder Reflow Recommendations



A	Stage 1 Preheat Ramp	Ambient to Preheating Temperature	3 °C/s max.
B	Stage 2 Preheat	Preheat min./max. Temperature Range	150 °C to 200 °C 60 s to 180 s
C	Stage 3 Preheat to Main Heating	Max. Time Above Stated Temperature	217 °C 60 s to 150 s
D	Main Heating	Max Time Within 5 °C of Peak Temperature (260 °C)	255 °C 20 s to 40 s
E	Cool Down	Rate from Peak Temperature	6 °C/s max.

### CAUTION:

- This product can be damaged by rapid heating, cooling or localized heating.
- Heat shocks should be avoided. Preheating and gradual cooling recommended.
- Solder gun tip temperature should be kept below 280 °C and should not touch the device directly. Contact should be less than 3 seconds. A solder gun under 30 watts is recommended.
- Excess solder volume can damage the body of the product.

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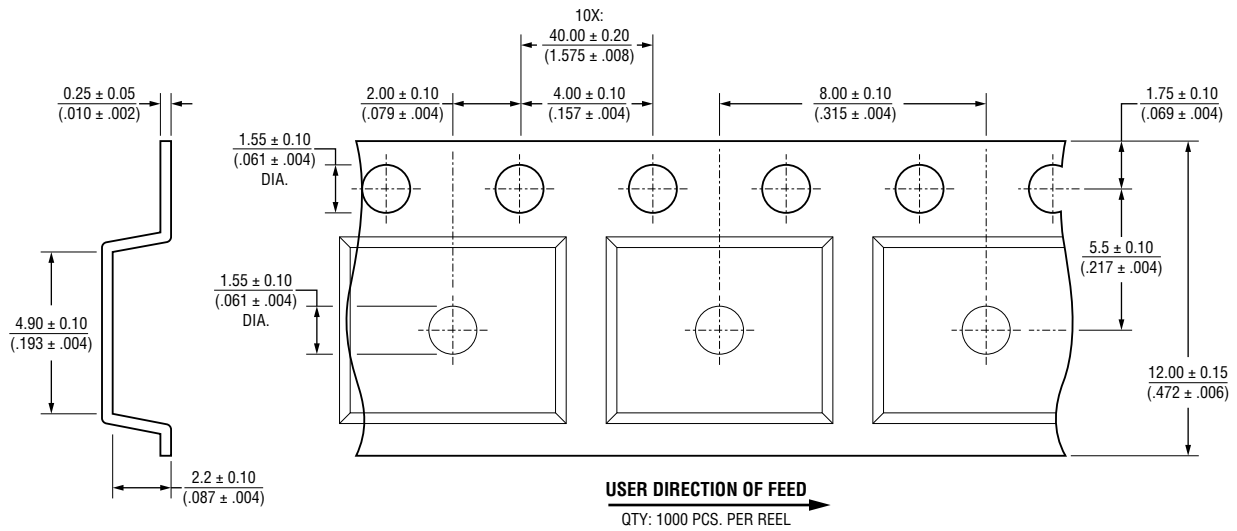
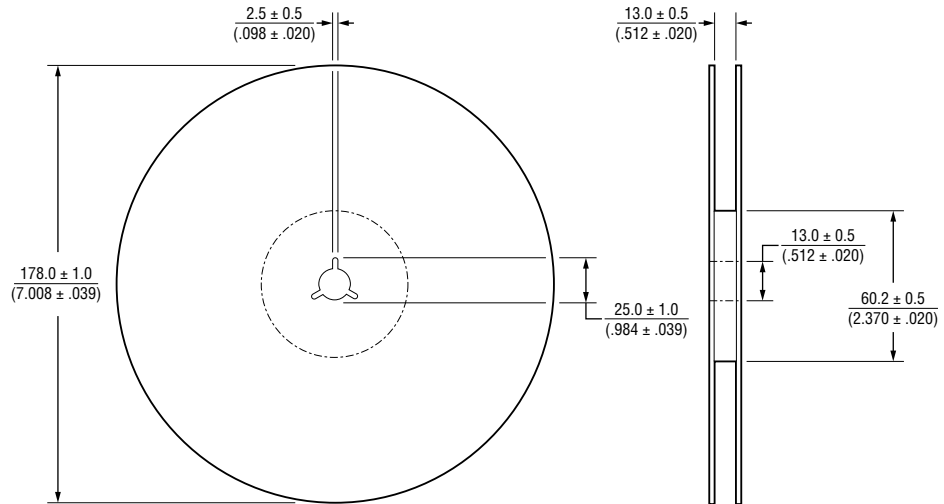
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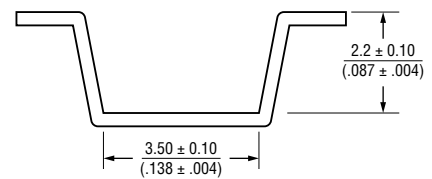
# BVR1812 SMD Series - Low Voltage Varistors

**BOURNS®**

## Packaging Dimensions



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



REV. 12/23

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