



### Features

- Meets IEC 61000-4-5 standard
- Compact EIA 1210 size
- Quick response time (< 1.0 ns)
- High transient current capability
- Lead free
- AEC-Q200 compliant
- RoHS compliant\*

### Applications

- Power supplies
- Entertainment electronics
- Circuit board level protection against transient events
- CAN, LIN, FLEXRAY based modules
- Module load dump protection
- Motor/inductive load transient suppression

## BVRA1210 Automotive Grade SMD Low Voltage Varistor Series

### Description

The Bourns® BVRA1210 Low Voltage Multilayered Varistor Series is designed specifically for use in automotive circuits requiring surge protection. This series offers excellent transient energy absorption due to improved energy volume distribution and power dissipation. The BVRA1210 Series is available with working voltages from 11 to 100 V<sub>DC</sub>.

BVRA Series varistors are typically applied to protect integrated circuits and other components at the circuit board level.

### Additional Information

Click these links for more information:



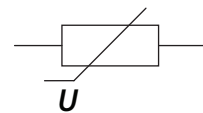
### Electrical Characteristics @ 25 °C (unless otherwise noted)

Model	V <sub>rms</sub> (V)	V <sub>DC</sub> (V)	V <sub>n</sub> Min. (V)	V <sub>n</sub> Max. (V)	V <sub>c</sub> (V)	I <sub>max</sub> (A)	W <sub>max</sub> (J)	C <sub>P</sub> Typ. (pF)
	<10 μA		1 mA DC		2.5 A @ 8/20 μs	@ 8/20 μs	@ 10/1000 μs	@ 1 KHz
BVRA1210-09PF	9	11	12	16	40	400	1.0	6200
BVRA1210-14PF	14	18	22	29	60	500	1.2	3700
BVRA1210-18PF	18	26	31	38	65	400	1.9	2600
BVRA1210-25PF	25	31	37	45	100	300	2.0	1000
BVRA1210-34PF	34	48	54	67	125	300	2.2	730
BVRA1210-46PF	46	60	69	83	135	450	2.5	730
BVRA1210-50PF	50	65	73	91	165	300	2.5	580
BVRA1210-60PF	60	85	90	110	190	400	2.8	310
BVRA1210-75PF	75	100	108	132	220	200	2.8	180

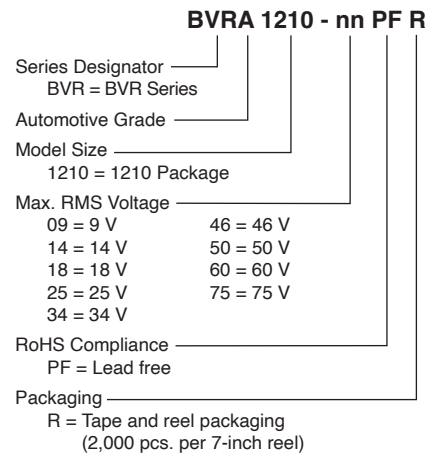
### Environmental Characteristics

Operating Temperature..... -40 °C to +125 °C  
 Storage Temperature..... -40 °C to +125 °C  
 Standard..... IEC 61000-4-5

### Device Symbol



### How to Order



**Americas:** Tel: +1 951-781-5500 • Email: [americus@bourns.com](mailto:americus@bourns.com)  
**Mexico:** Tel: +52-614-478-0400 • Email: [mexicus@bourns.com](mailto:mexicus@bourns.com)  
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**EMEA:** Tel: +36 88 885 877 • Email: [eurocus@bourns.com](mailto:eurocus@bourns.com)  
[www.bourns.com](http://www.bourns.com)



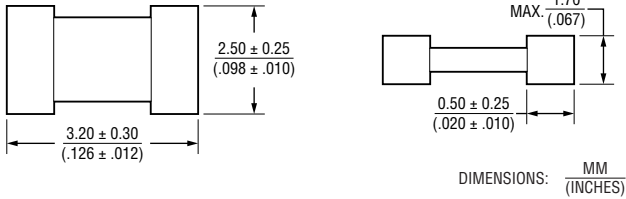
**CALIFORNIA WARNING:** Can expose you to lead, a carcinogen and reproductive toxicant.  
 See [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\*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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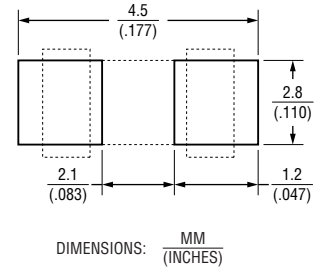
# BVRA1210 Automotive Grade SMD Low Voltage Varistor Series



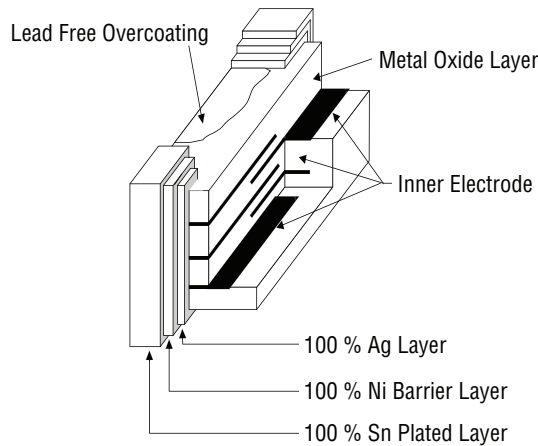
## Product Dimensions



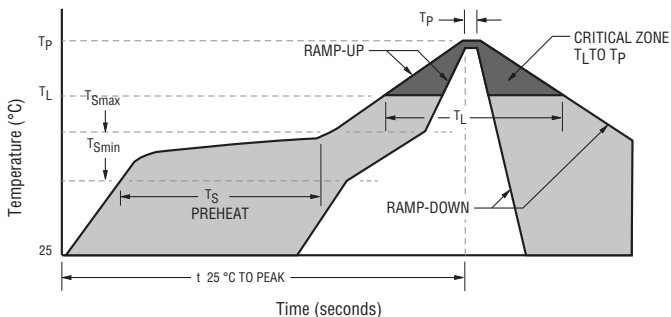
## Recommended Pad Layout



## 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.

Specifications are subject to change without notice.

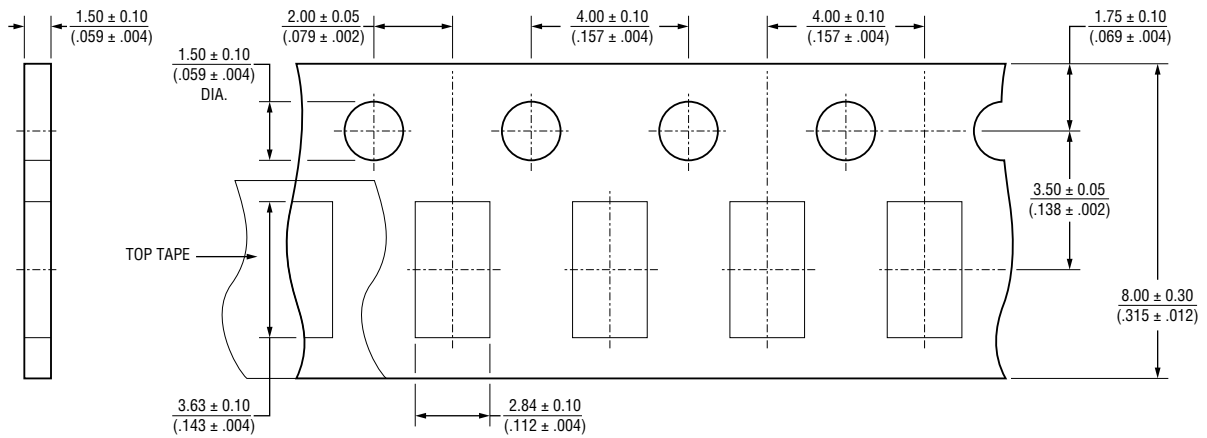
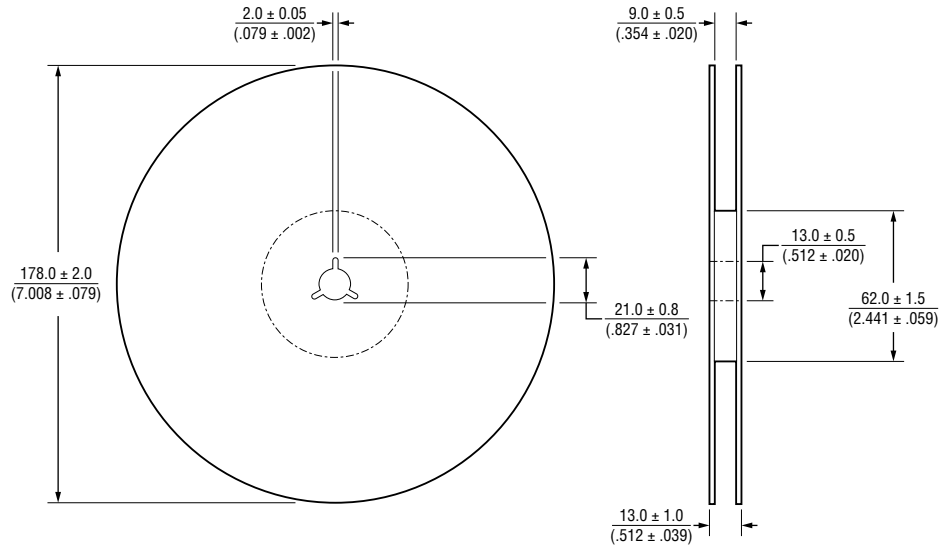
Users should verify actual device performance in their specific applications.

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# BVRA1210 Automotive Grade SMD Low Voltage Varistor Series



## Packaging Dimensions



**USER DIRECTION OF FEED** →

QTY: 2000 PCS. PER REEL

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

REV. 09/25

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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