



Features

- Meets IEC 61000-4-5 standard
- Compact EIA 0402 size
- Quick response time (< 0.5 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

BVRA0402 Automotive Grade SMD Low Voltage Varistor Series

Description

The Bourns® Model BVRA0402 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 Model BVRA0402 Series is available with working voltages from 5.5 to 18 V_{DC}.

Model 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:



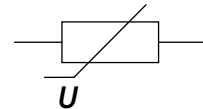
Electrical Characteristics @ 25 °C (unless otherwise noted)

Model	V _{rms} (V)	V _{DC} (V)	V _n Min. (V)	V _n Max. (V)	V _c (V)	I _{max} (A)	W _{max} (J)	C _p Typ. (pF)
	<10 μA		1 mA DC		1 A @ 8/20 μs	@ 8/20 μs	@ 10/1000 μs	@ 1 MHz
BVRA0402-04PF	4	5.5	7	10	22	10	0.04	270
BVRA0402-06PF	6	9	11	16.5	32	20	0.05	160
BVRA0402-08PF	8	11	14	17.5	35	20	0.05	190
BVRA0402-11PF	11	14	18	22.5	44	10	0.02	130
BVRA0402-14PF	14	18	20	26.5	45	20	0.05	84

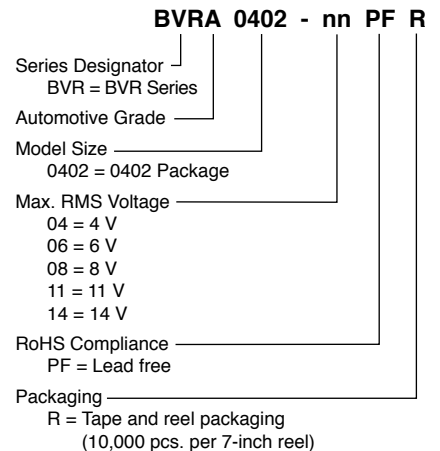
Environmental Characteristics

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
Mexico: Tel: +52-614-478-0400 • Email: mexicus@bourns.com
Asia: Tel: +886-2-2562-4117 • Email: asiacus@bourns.com
EMEA: Tel: +36 88 885 877 • Email: euocus@bourns.com
www.bourns.com



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

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

Specifications are subject to change without notice.

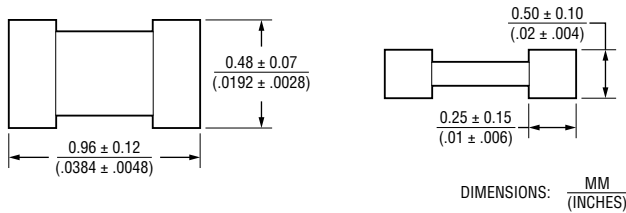
Users should verify actual device performance in their specific applications.

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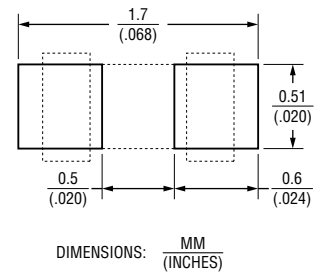
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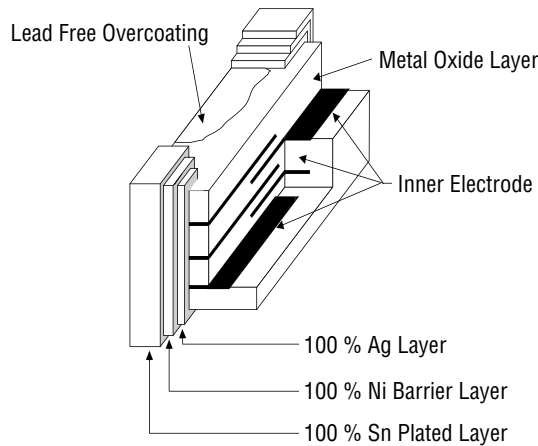
Product Dimensions



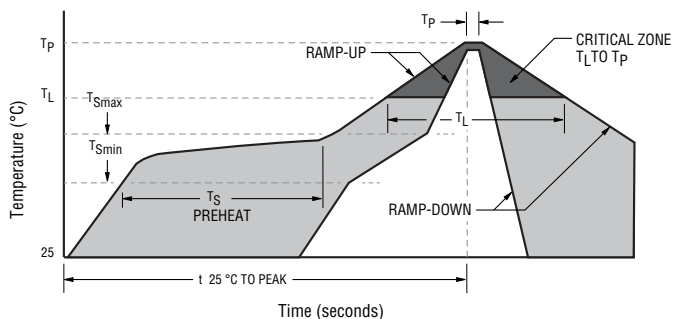
Recommended Pad Layout



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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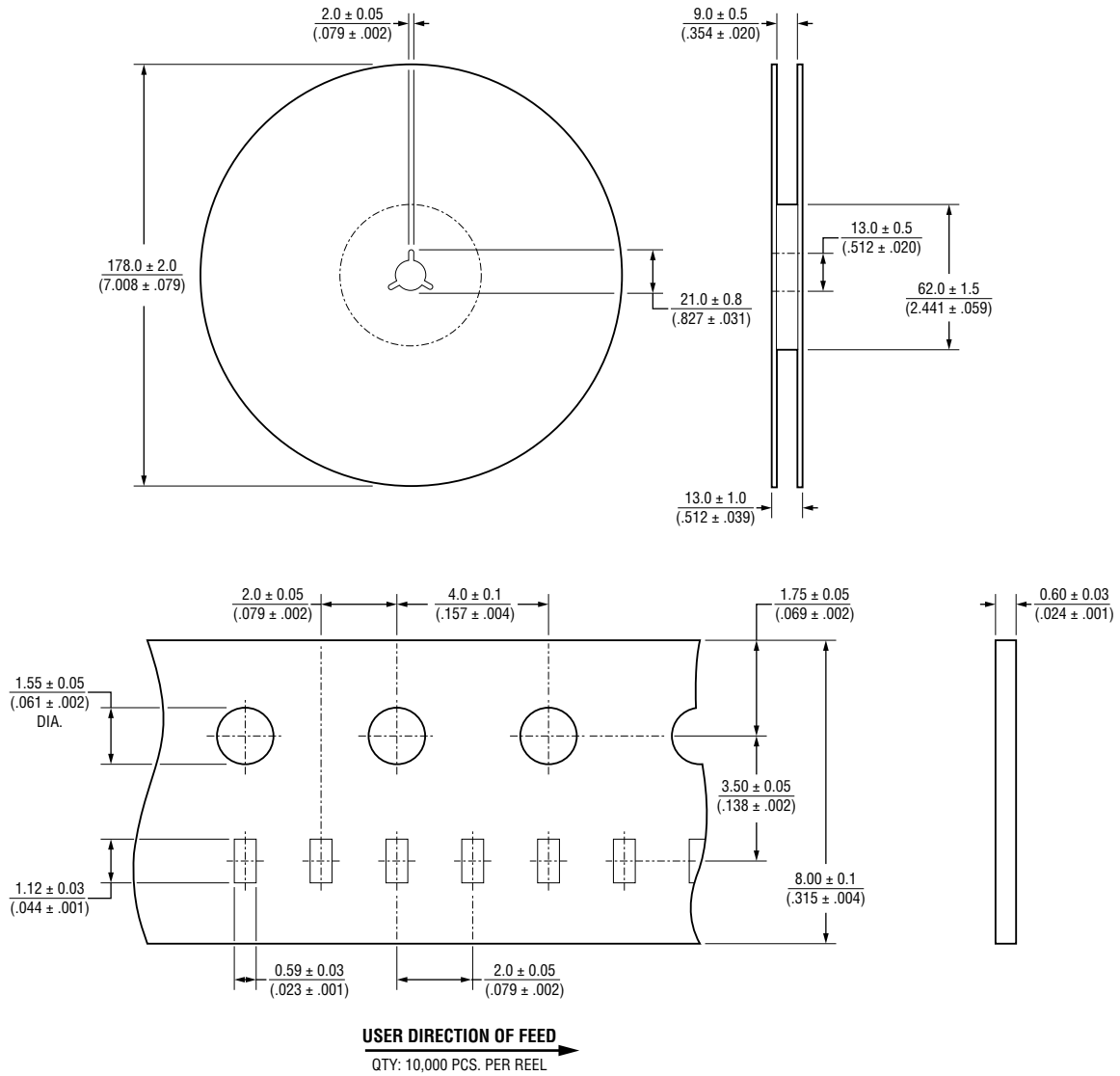
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BVRA0402 Automotive Grade SMD Low Voltage Varistor Series



Packaging Dimensions



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

REV. 09/24

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