



Features

- Meets IEC 61000-4-5 standard
- Compact EIA 0603 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

BVRA0603 Automotive SMD Series – Low Voltage Varistors

Description

The Bourns® Model BVRA0603 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 BVRA0603 Series is available with working voltages from 5.5 to 38 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:



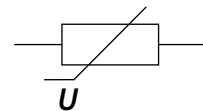
Electrical Characteristics @ 25 °C (unless otherwise noted)

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 KHz
BVRA0603-04PF	4	5.5	7	10	21	20	0.1	580
BVRA0603-06PF	6	9	11	15.5	30	30	0.1	280
BVRA0603-14PF	14	18	22	28	45	30	0.2	130
BVRA0603-17PF	17	22	25	41	54	30	0.2	75
BVRA0603-20PF	20	26	30	43	67	30	0.1	100
BVRA0603-25PF	25	31	36	44	71	30	0.2	100
BVRA0603-30PF	30	38	42	51	80	30	0.1	65

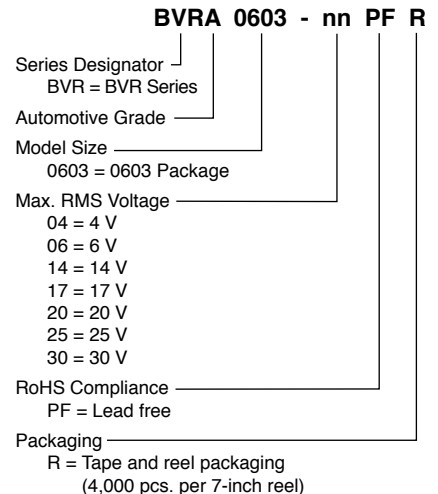
Environmental Characteristics

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

Device Symbol



How to Order



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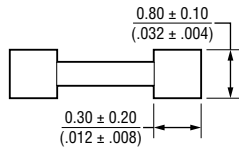
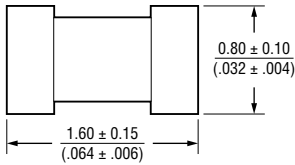
WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

*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. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.

BVRA0603 Automotive Grade SMD Low Voltage Varistor Series

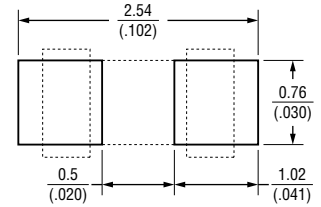


Product Dimensions



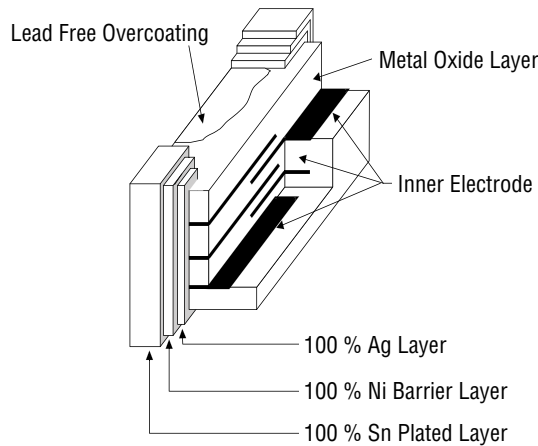
DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

Recommended Pad Layout

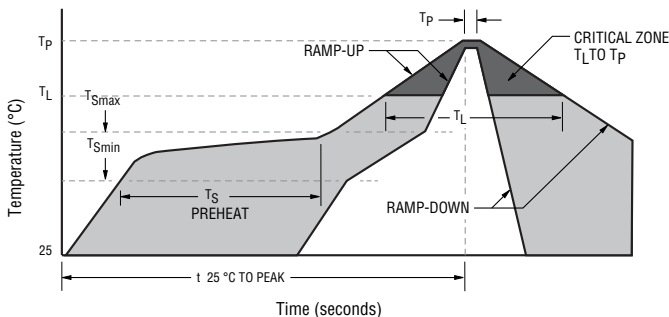


DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

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.

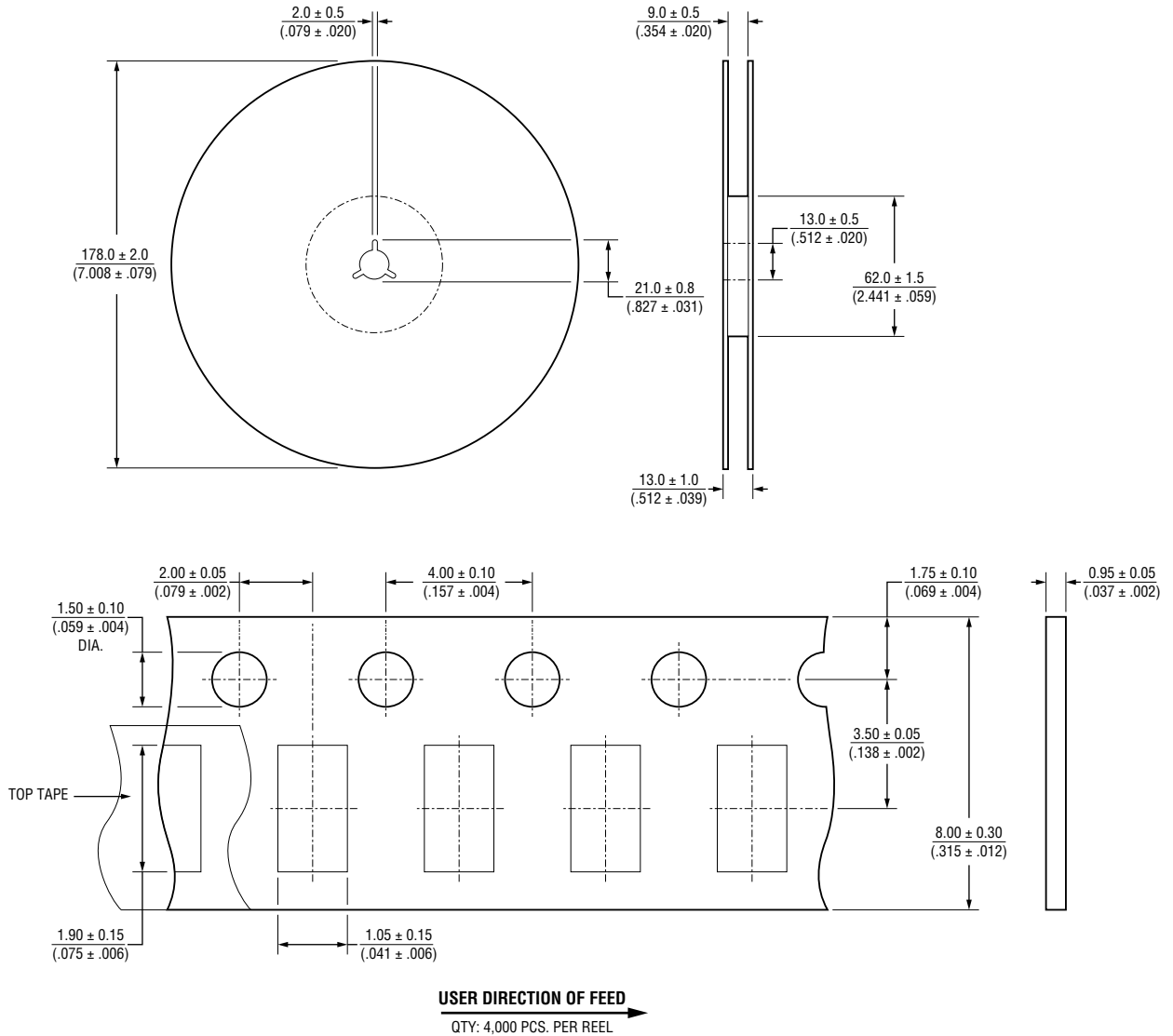
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BVRA0603 Automotive Grade SMD Low Voltage Varistor Series



Packaging Dimensions



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

REV. 09/24

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