

Features

- Meets IEC 61000-4-5 standard
- Compact EIA 1812 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

BVRA1812 Automotive Grade SMD Low Voltage Varistor Series

Description

The Bourns® BVRA1812 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 BVRA1812 Series is available with working voltages from 14 to 100 V_{DC}.

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:

PRODUCT SELECTOR | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

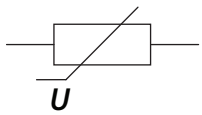
Electrical Characteristics @ 25 °C (unless otherwise noted)

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		5 A @ 8/20 μs	@ 8/20 μs	@ 10/1000 μs	@ 1 KHz
BVRA1812-10PF	10	14	16	22	42	800	2.5	8400
BVRA1812-18PF	18	26	31	38	62	800	3.0	3200
BVRA1812-21PF	21	30	37	46	70	800	3.7	3950
BVRA1812-30PF	30	38	46	54	80	800	4.2	2500
BVRA1812-35PF	35	45	50	62	90	500	4.0	1800
BVRA1812-40PF	40	56	67	84	135	800	5.0	1800
BVRA1812-50PF	50	65	73	91	140	800	5.2	1500
BVRA1812-60PF	60	85	90	110	145	400	5.8	1100
BVRA1812-75PF	75	100	108	132	200	500	6.0	700

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

BVRA 1812 - nn PF R

Series Designator
BVR = BVR Series

Automotive Grade

Model Size
1812 = 1812 Package

Max. RMS Voltage
10 = 10 V
18 = 18 V
21 = 21 V
30 = 30 V
35 = 35 V
40 = 40 V
50 = 50 V
60 = 60 V
75 = 75 V

RoHS Compliance
PF = Lead free

Packaging
R = Tape and reel packaging
(1,000 pcs. per 7-inch reel)

BOURNS®

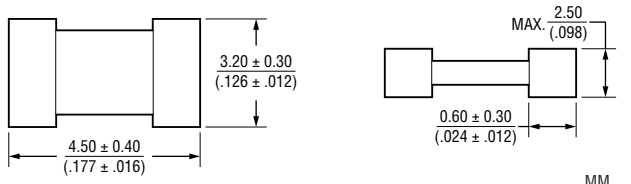
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CALIFORNIA WARNING: Can expose you to lead, a carcinogen and reproductive toxicant. See www.P65Warnings.ca.gov

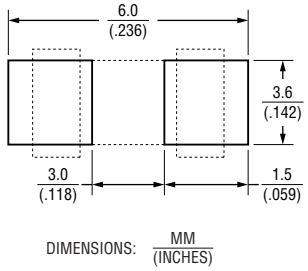
*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
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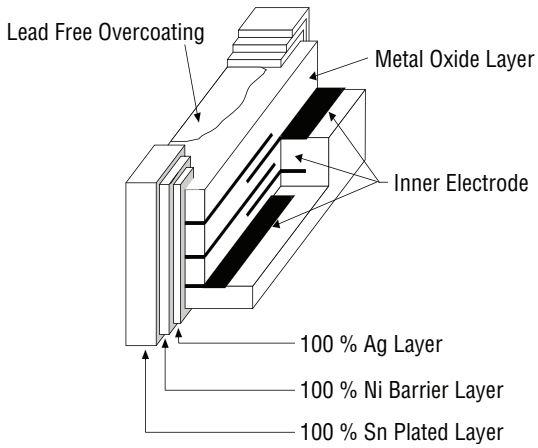
Product Dimensions



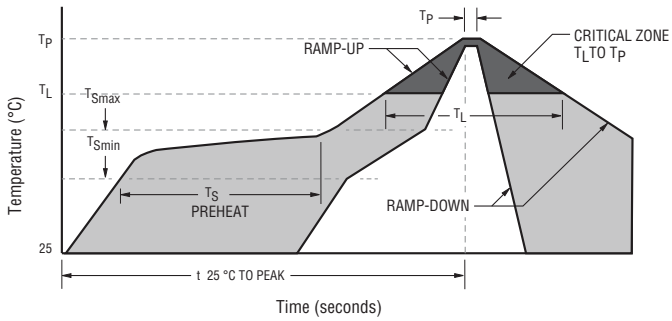
Recommended Pad Layout



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.

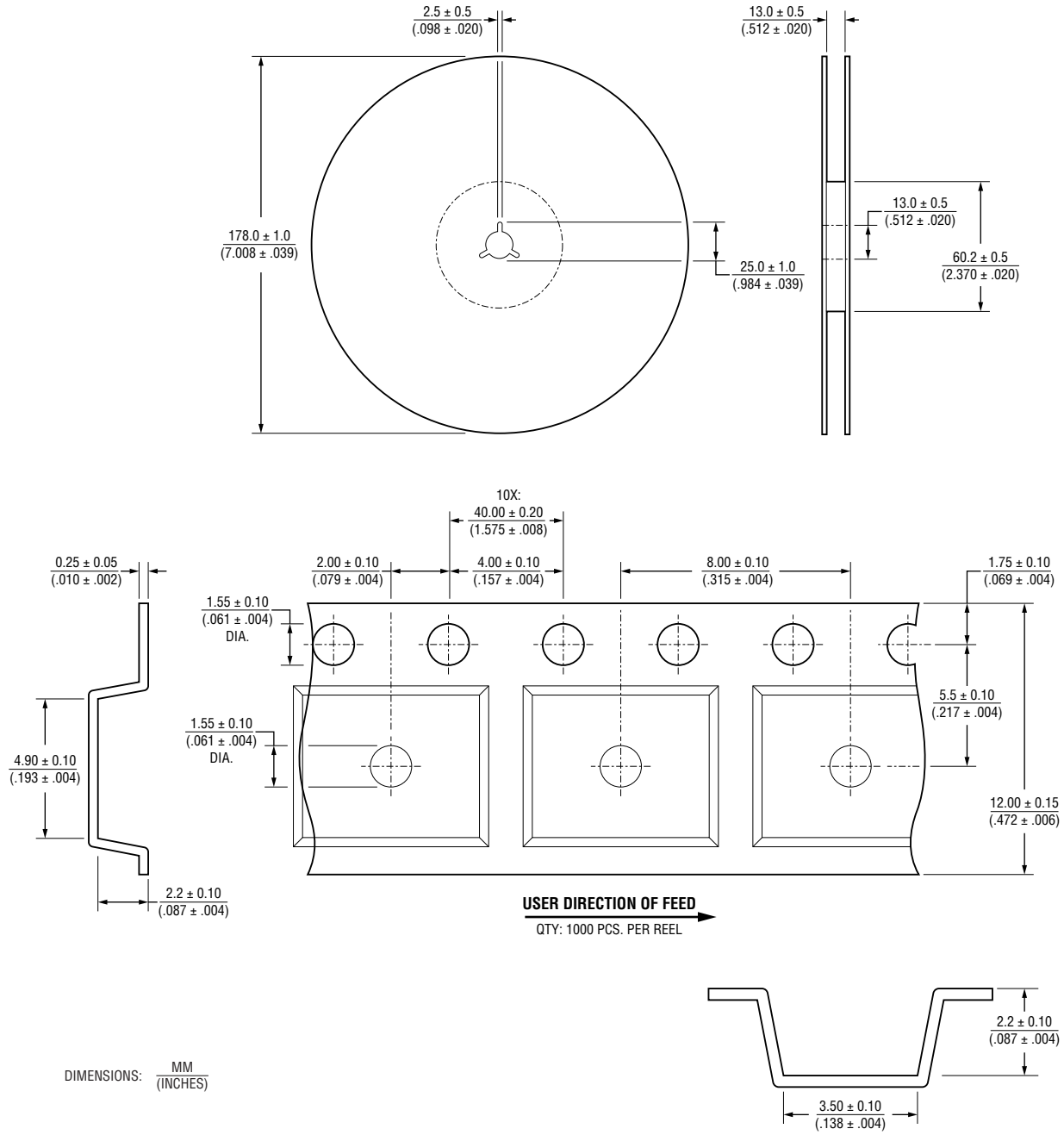
CAUTION:

- 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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Packaging Dimensions



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