

Features

- 20 kA, 8/20 μ s surge capability
- Low clamping voltage under surge
- Bidirectional TVS
- RoHS compliant*
- Halogen free**

Applications

- High power DC bus protection

PTVS20-015C-H High Current TVS Diode

General Information

The Model PTVS20-015C-H high current bidirectional TVS diode is designed for use in high power DC bus clamping applications.



The devices are RoHS* compliant and are designed to meet IEC 61000-4-5 8/20 μ s current surge requirements.

Agency Approval

Description	
UL	File Number: E313168

Additional Information

Click these links for more information:



Absolute Maximum Ratings (@ $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Rating	Symbol	Value	Unit
Repetitive Standoff Voltage	V_{WM}	15	V
Peak Current Rating per 8/20 μ s IEC 61000-4-5	I_{PPM}	20	kA
Operating Temperature Range	T_{op}	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	T_S	-55 to +150	$^\circ\text{C}$

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_D Standby Current	$V_D = V_{WM}$			10	μA
$V_{(BR)}$ Breakdown Voltage	$I_{BR} = 10\text{ mA}$	16		19	V
V_C Clamping Voltage per IEC61000-4-5 (8/20 μ s current waveform) (1)	$I_{PP} = 20\text{ kA}$		26		V
$V_{(BR)}$ Temperature Coefficient			0.1		$\%/^\circ\text{C}$
C Capacitance	$F = 10\text{ kHz}, V_d = 1\text{ Vrms}$		38.7		nF

Note: (1) V_C measured at the time which is coincident with the peak surge current.

Environmental Specifications

Test	Standard
HTRB	MIL-STD-750, 1038
Temperature Cycling	JESD22-A104
High Temperature High Humidity Reverse Bias	JESD22-A101
MSL	JESD22-A113, Level 1
UHASt	JESD22-A118
ESD (HBM)	ANSI-ESDA-JEDEC-JS-001-2017, Class 3B

How to Order

Series	PTVS 20 - 015 C - H
PTVS = Power TVS High Current Diode	
Peak Current Rating	20 = 20 kA
Repetitive Standoff Voltage	015 = 15 V_{WM} (Volts)
Suffix	C = Bidirectional Device
Package	H = DFN Package



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

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

**Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

Specifications are subject to change without notice. Users should verify actual device performance in their specific applications.

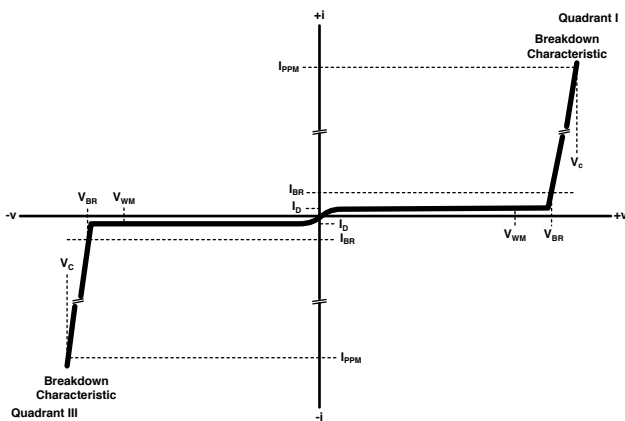
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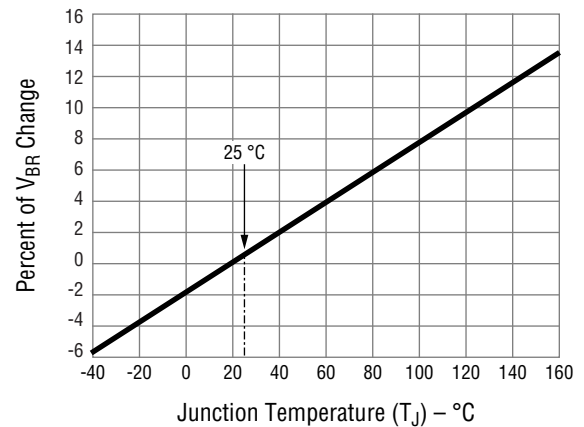
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Performance Graphs

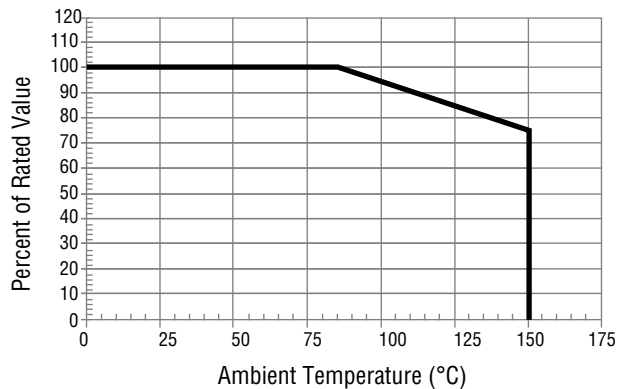
V-I Characteristic



Typical V_{BR} vs. Junction Temperature

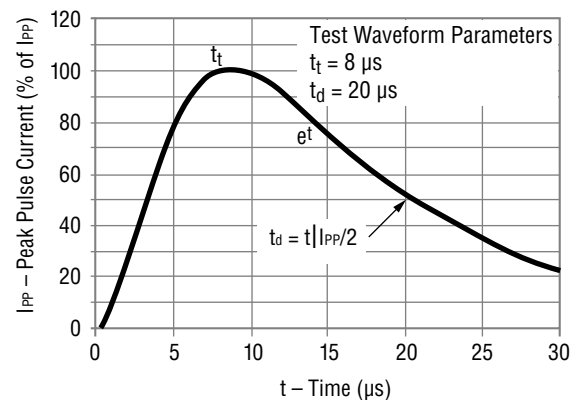


Typical 8/20 μs Surge Current Derating



This graph shows the typical device surge current derating versus ambient temperature when subjected to the 8/20 μs current waveform per the IEC 61000-4-5 specification. This device is not intended for continuous operation at temperatures above 125 $^{\circ}\text{C}$.

Current 8/20 μs Waveform per IEC 61000-4-5



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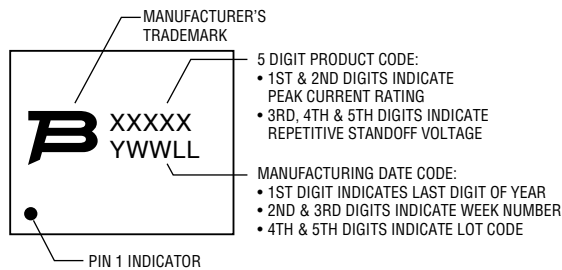
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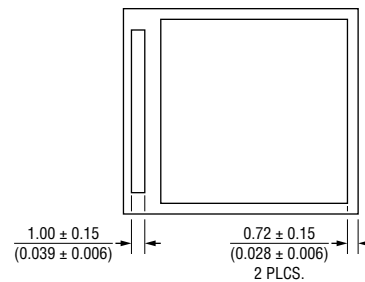
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Typical Part Marking

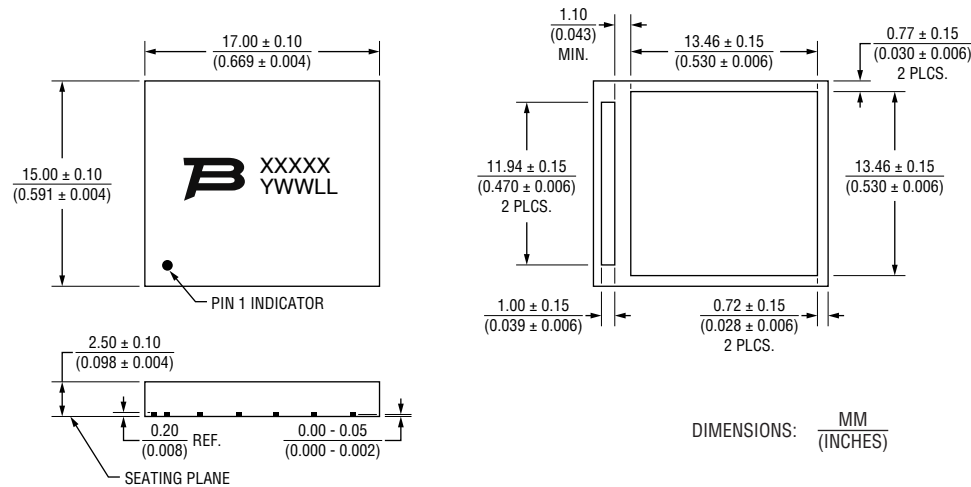


Recommended Pad Layout



Product Dimensions

This is an RoHS compliant*, molded package with 100 % Sn on the terminations, and a flammability rating of UL 94-V-0.



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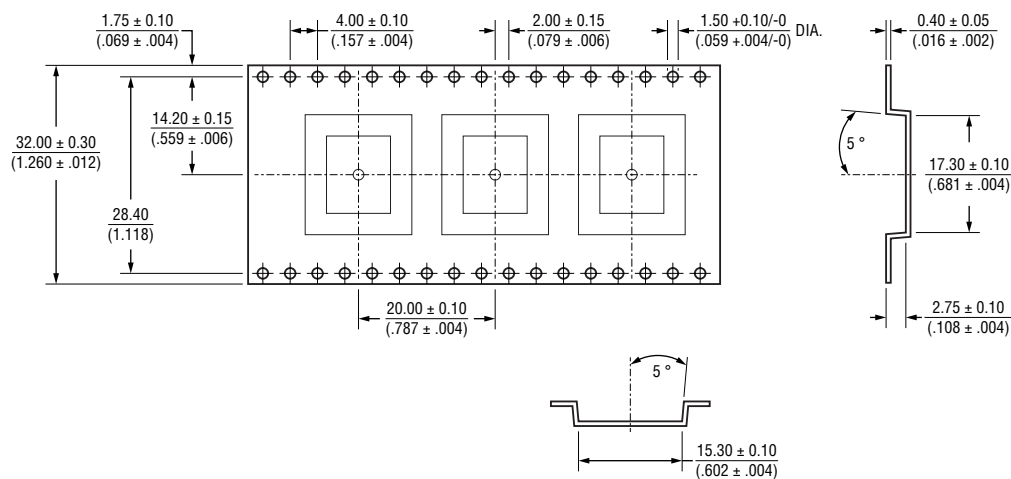
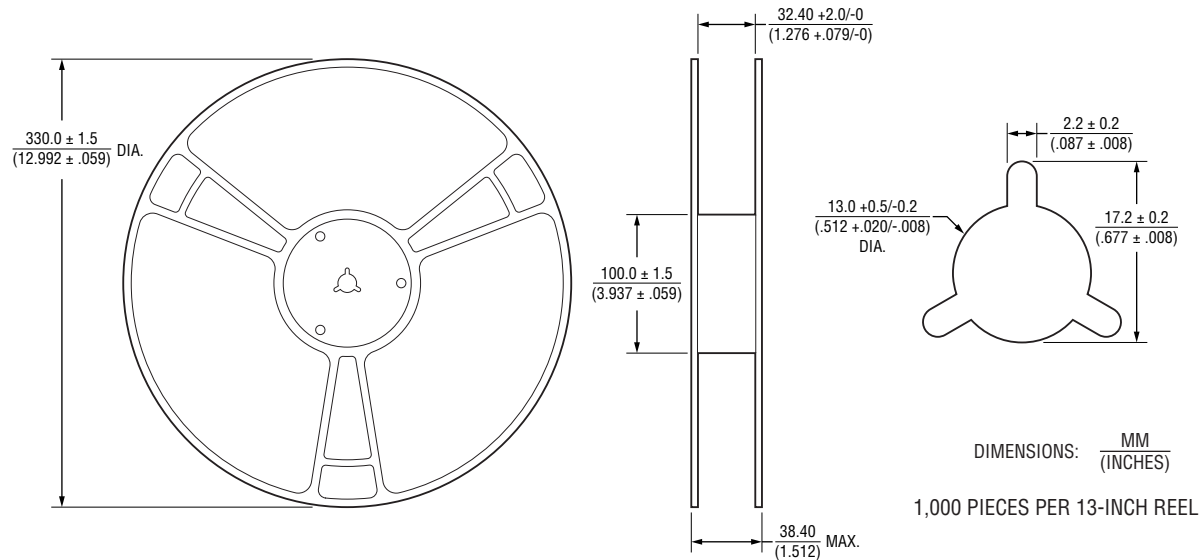
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Packaging Specifications



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