

Features

- 1 kA, 8/20 µs surge capability
- Repetitive standoff voltage: 22 to 86 volts
- Bidirectional TVS
- Low clamping voltage under surge
- Excellent performance over temperature
- Surface mount DFN package
- RoHS compliant* and halogen free**

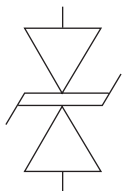
Applications

- Protection against lightning, inductive and transient surges up to rated limits
- Exposed PoE ports
- Small cell, Remote Radio Units (RRUs) and Baseband Units (BBUs)
- High power DC bus protection
- Robot OVP

PTVS1-xxxC-H High Current TVS Diodes

General Information

The Bourns® PTVS1-xxxC-H family of high current bidirectional TVS diodes is designed to protect DC or PoE powered systems such as small cell or surveillance cameras that can be exposed to high surge events such as induced lightning or inductive power switching. These devices offer bidirectional port protection and are available with standoff voltage ratings of 22 to 86 V.



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

Additional Information

Click these links for more information:

PRODUCT SELECTOR | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

Agency Recognition

Description	
UL	File Number: E215609

Absolute Maximum Ratings (@ T_A = 25 °C Unless Otherwise Noted)

Rating		Symbol	Value	Unit
Repetitive Standoff Voltage	PTVS1-022C-H	V_{WM}	22	V
	PTVS1-026C-H		26	
	PTVS1-029C-H		29	
	PTVS1-043C-H		43	
	PTVS1-058C-H		58	
	PTVS1-066C-H		66	
	PTVS1-076C-H		76	
	PTVS1-086C-H		86	
Peak Current Rating per 8/20 μs IEC 61000-4-5		I_{PPM}	1	kA
Operating Temperature Range		T_{OP}	-55 to +125	°C
Storage Temperature Range		T_S	-55 to +150	°C

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Asia-Pacific: Tel: +886-2 2562-4117 • Email: asiacus@bourns.com
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Mexico: Tel: +52 614 478 0400 • Email: mexicus@bourns.com
The Americas: Tel: +1-951 781-5500 • Email: americus@bourns.com
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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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Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Bidirectional Device	Breakdown Voltage V_{BR} (V)			Standby Current $V_D = V_{WM}$	Typical Clamping Voltage[1][2] @ I_{PPM}	V_{BR} Temperature Coefficient	Typical Capacitance (f=10 kHz V_d = 1 V_{rms})
Model Number	Min.	Max.	@ I_{BR} (mA)	I_D (μA)	V_C (V)	% / °C	C (nF)
PTVS1-022C-H	24	27	10	10	28	0.1	2.0
PTVS1-026C-H	28	32	10	10	30	0.1	1.5
PTVS1-029C-H	32	35	10	10	34	0.1	1.5
PTVS1-043C-H	48	53	10	10	56	0.1	1.0
PTVS1-058C-H	64	70	10	10	67	0.1	0.8
PTVS1-066C-H	72	80	10	10	86	0.1	0.7
PTVS1-076C-H	85	95	10	10	91	0.1	0.6
PTVS1-086C-H	96	105	10	10	99	0.1	0.5

Notes: (1) 8/20 μs per IEC 61000-4-5.
(2) V_C measured at the time which is coincident with the peak surge current.

How to Order

PTVS 1 - xxx C - H

Series
PTVS = Power TVS High Current Diode

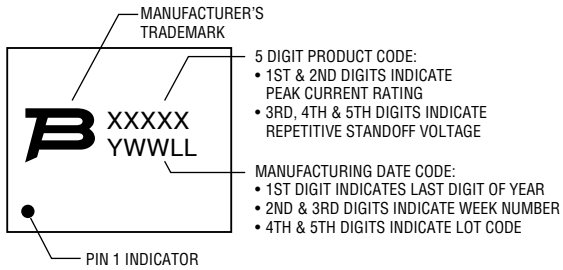
Peak Current Rating
1 = 1 kA

Repetitive Standoff Voltage
022 - 086 = 22 - 86 V_{WM} (Volts)

Suffix
C = Bidirectional Device

Package
H = DFN Package

Typical Part Marking

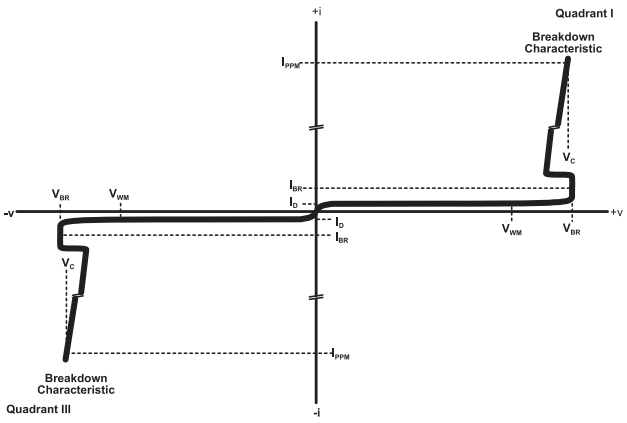


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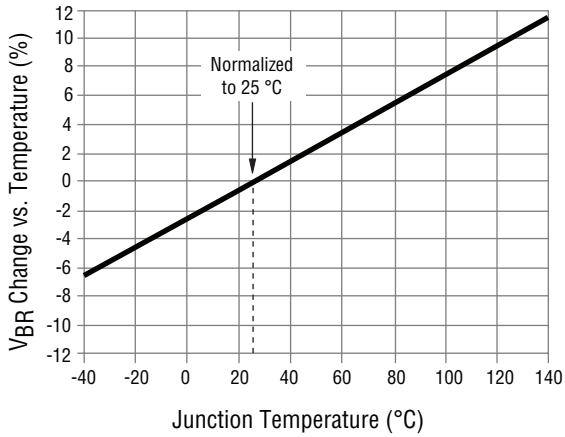
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Performance Graphs

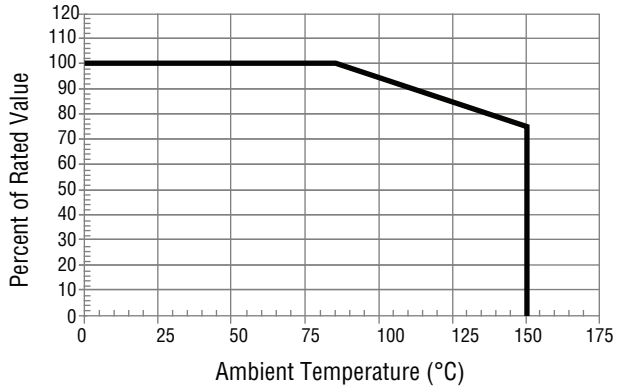
V-I Characteristic



Typical V_{BR} vs. Junction Temperature

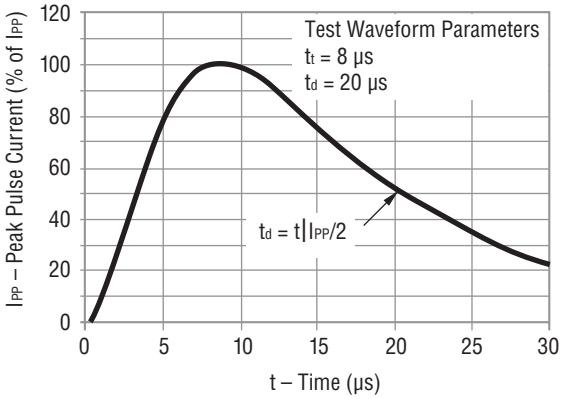


Typical Surge Current Derating



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 °C.

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

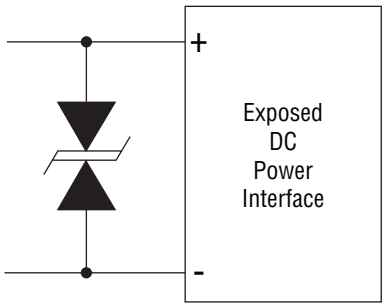


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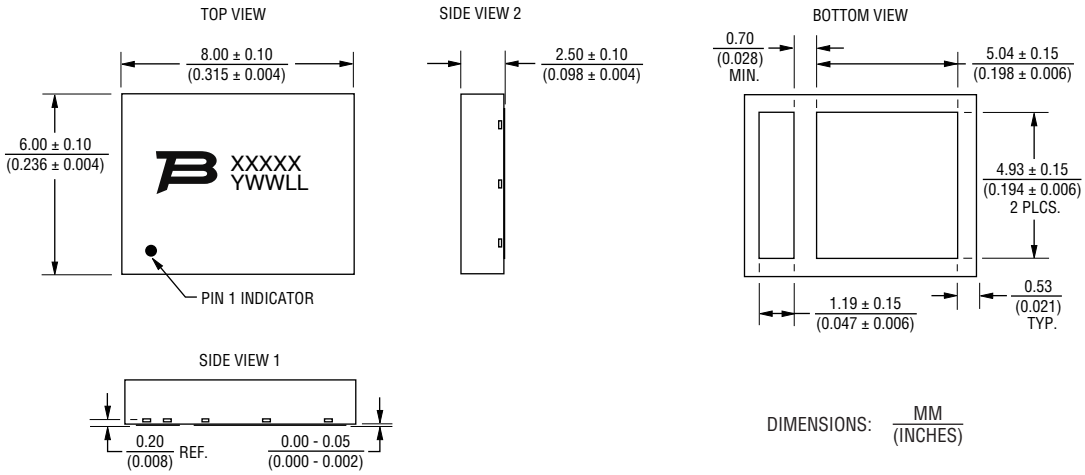
Application

A typical application for Power TVS products includes DC power line protection.

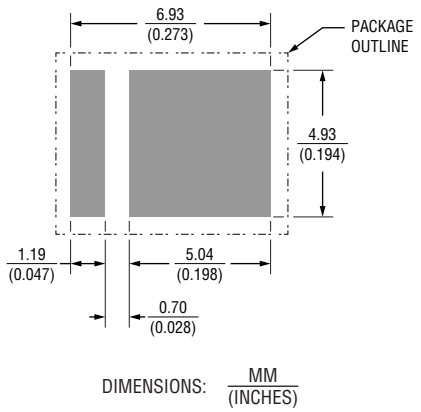


Product Dimensions

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



Recommended Pad Layout



Environmental Specifications

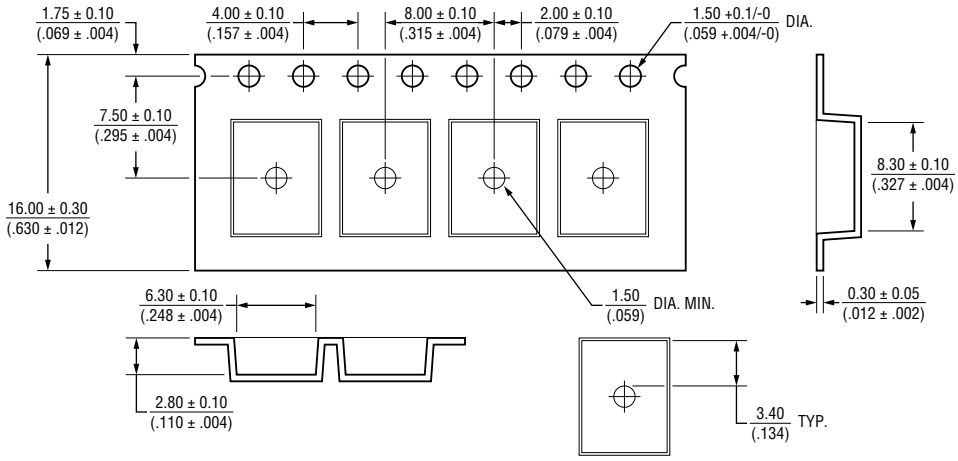
Test	Standard
HTRB	MIL-STD-750, 1038
Temperature Cycling	JESD22-A104
High Temperature High Humidity Reverse Bias	JESD22-A101
MSL	JESD22-A113, Level 1
UHAST	JESD22-A118
ESD (HBM)	ANSI-ESDA-JEDEC-JS-001-2017, Class 3B

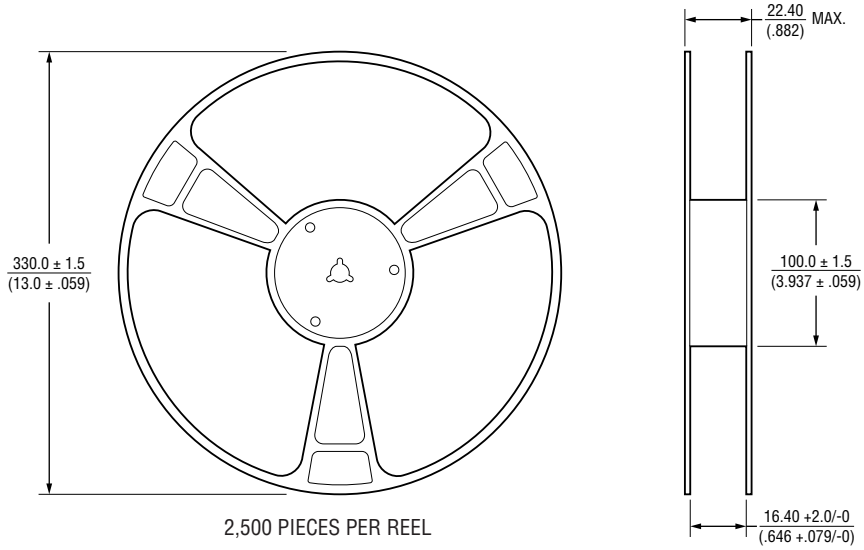
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Packaging Information

The product will be dispensed in tape and reel format (see diagram below).





2,500 PIECES PER REEL

DIMENSIONS: MM / (INCHES)

REV. 06/25

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