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Features

- 20 kA, 8/20 µs surge capability
- Low clamping voltage under surge
- Bidirectional TVS
- RoHS compliant*

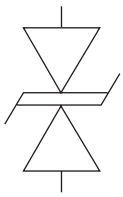
Applications

- High power DC bus protection

PTVS20-015C-TH High Current TVS Diode

General Information

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



The device is RoHS* compliant and assists in meeting IEC 61000-4-5 8/20 µs current surge requirements.

Agency Approval

Description	
UL	File Number: E313168

Additional Information

Click these links for more information:

PRODUCT SELECTOR | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

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

Rating	Symbol	Value	Unit
Repetitive Standoff Voltage	V_{WM}	15	V
Peak Current Rating per 8/20 μs IEC 61000-4-5	I_{PPM}	20	kA
Operating Temperature Range	T_{OP}	-55 to +125	°C
Storage Temperature Range	T_S	-55 to +150	°C

Electrical Characteristics (@ T_A = 25 °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 mA	16		19	V
V_C	Clamping Voltage (1) per IEC 61000-4-5 (8/20 μs current waveform)	I_{PP} = 20 kA		44		V
$V_{(BR)}$	Temperature Coefficient			0.1		%/°C
C	Capacitance	F = 10 kHz, V_d = 1 Vrms		38.7		nF

(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
UHAST	JESD22-A118
ESD (HBM)	ANSI-ESDA-JEDEC-JS-001-2017, Class 3B

How to Order

PTVS 20 - 015 C - TH

- Series: 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: TH = Through-hole

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

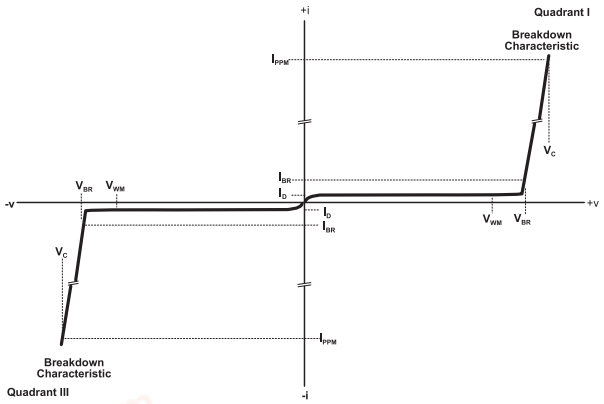
*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

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Users should verify actual device performance in their specific applications.
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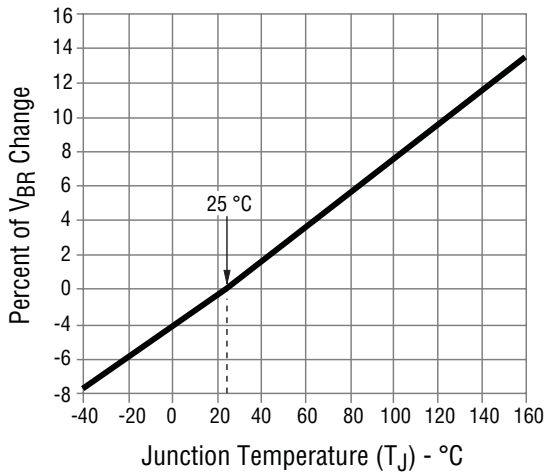
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Performance Graphs

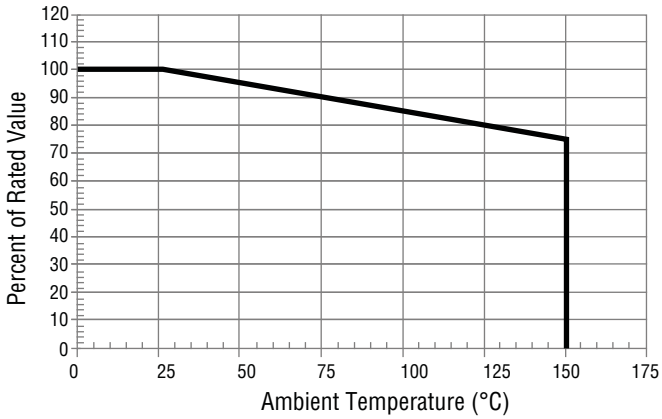
V-I Characteristic



Typical V_{BR} vs. Junction Temperature

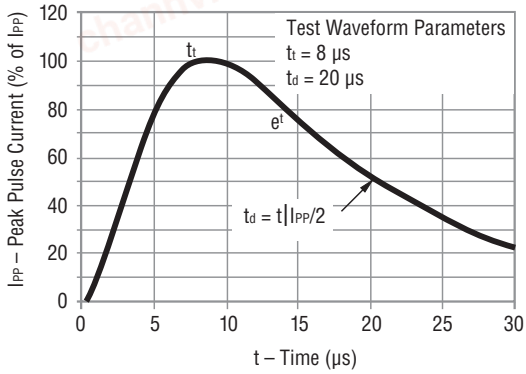


Typical 8/20 μs Surge Current Derating



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 °C.

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



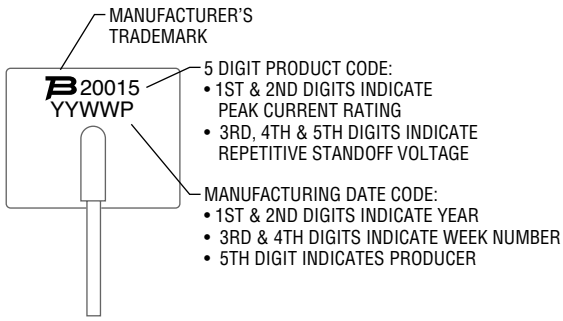
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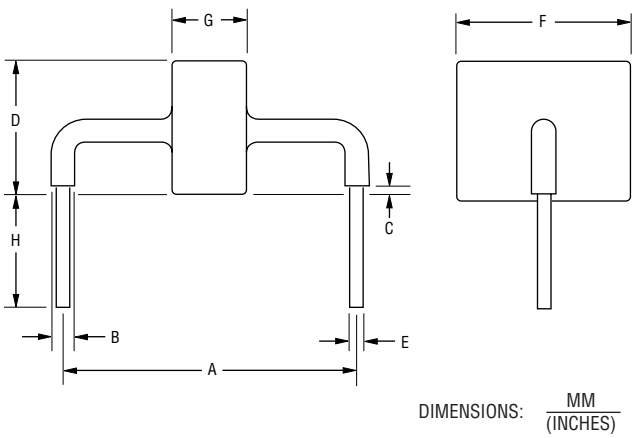
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Typical Part Marking



Product Dimensions

This is an RoHS compliant product, with epoxy encapsulations meeting UL Class 94V-0. Ag plated leads meet solderability requirements of JESD22-B102. Package dimensions are shown below.



Dim.	PTVS20-015C-TH
A	24.5 ± 3.00 (0.965 ± 0.118)
B	2.00 ± 0.50 (0.079 ± 0.020)
C	2.70 ± 1.25 (0.106 ± 0.049)
D	17.50 (0.689) Max.
E	1.25 ± 0.05 (0.049 ± 0.002)
F	16.00 (0.630) Max.
G	4.00 (0.157) Max.
H	6.00 ± 1.00 (0.236 ± 0.039)

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