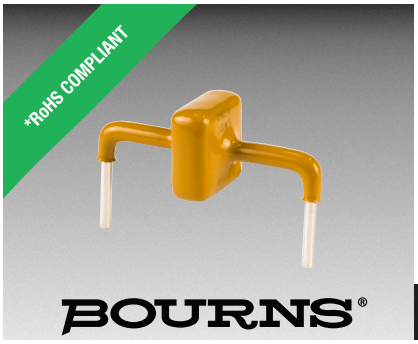


Features

- 6 kA, 8/20 µs surge capability
- Low clamping voltage under surge
- Bidirectional TVS
- Excellent performance over temperature

Applications

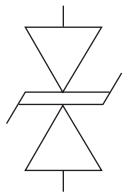
- High power DC bus protection

PTVS6-xxxC-TH Series High Current TVS Diodes

General Information

The Model PTVS6-xxxC-TH Series high current bidirectional TVS diodes are designed for use in high power DC bus clamping applications. These devices offer bidirectional port protection and are available with standoff voltage ratings of 58 V and 76 V.

The devices are RoHS* compliant. They also 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

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

Rating		Symbol	Value	Unit
Repetitive Standoff Voltage	PTVS6-058C-TH PTVS6-076C-TH	V_{WM}	58 76	V
Peak Current Rating per 8/20 μs IEC 61000-4-5		I_{PPM}	6	kA
Operating Junction Temperature Range		T_J	-55 to +125	°C
Storage Temperature Range		T_S	-55 to +150	°C
Lead Temperature, Soldering (10 s)			260	°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	PTVS6-058C-TH PTVS6-076C-TH	64 85	66 92	70 95	V
V_C	Clamping Voltage (1) per IEC61000-4-5 (8/20 μs current waveform)	I_{PP} = 6 kA	PTVS6-058C-TH PTVS6-076C-TH			110 140	V
$V_{(BR)}$	Temperature Coefficient				0.1		%/°C
C	Capacitance	F = 10 kHz, V_d = 1 Vrms	PTVS6-058C-TH PTVS6-076C-TH		4.5 3.3		nF

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

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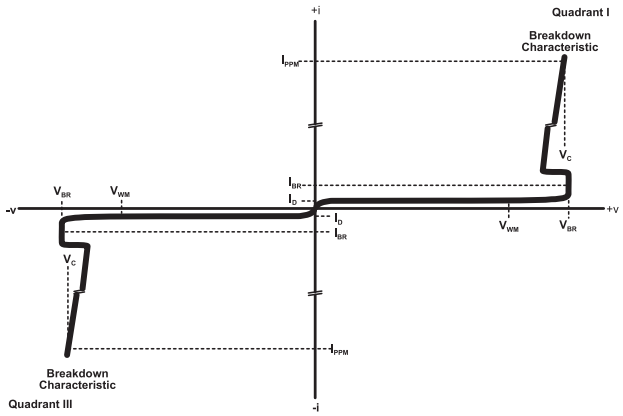
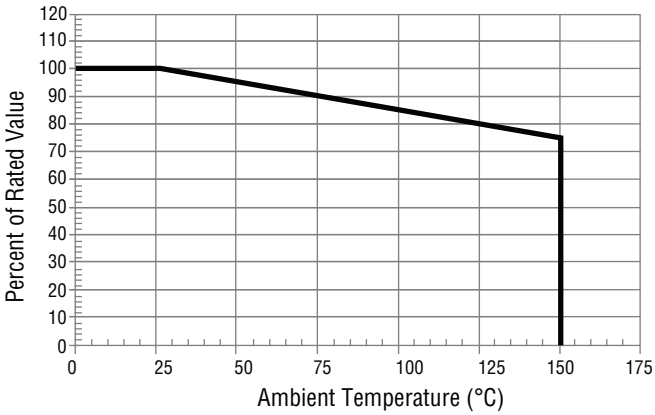
Performance Graphs

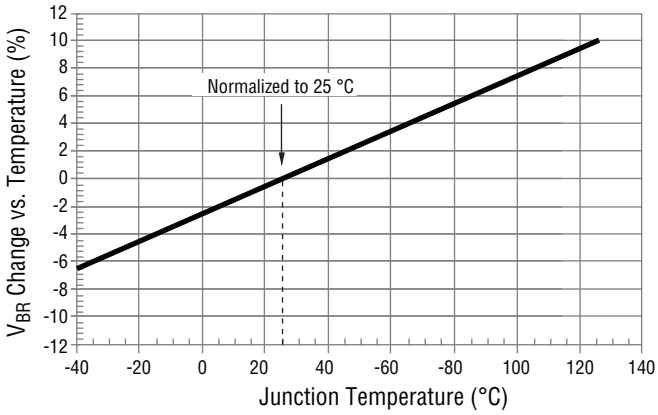
V-I Characteristic





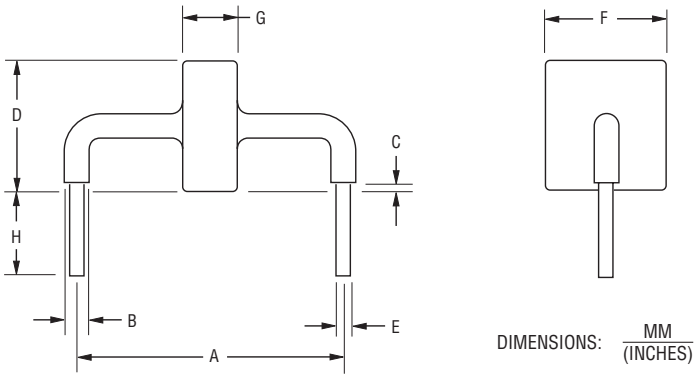
This graph shows the typical device surge current derating versus ambient temperature when subjected to the 8/20 µs current waveform per the IEC 61000-4-5 specification. This device is not intended for continuous operation at temperatures above 125 °C.

Percentage V_{BR} Change vs. Junction Temperature



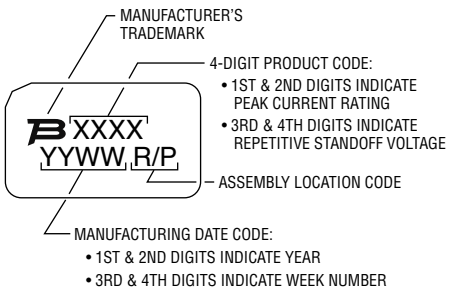
Product Dimensions

Epoxy encapsulation materials conform to UL 94V-0. Silver plated lead finish conforms to the solderability requirements of JESD22-B102, Pb free solder. Package dimensions are shown below:



Dim.	PTVS6-058C-TH	PTVS6-076C-TH
A	24.15 ± 0.72 (0.951 ± 0.028)	
B	2.40 ± 0.50 (0.094 ± 0.020)	
C	1.75 ± 1.25 (0.069 ± 0.049)	
D	12.00 (0.472) Max.	
E	1.25 ± 0.05 (0.049 ± 0.002)	
F	11.50 (0.453) Max.	
G	5.00 (0.197) Max.	6.00 (0.236) Max.
H	6.00 ± 1.00 (0.236 ± 0.039)	

Typical Part Marking



How to Order

PTVS 6 - 076 C - T H

Series
PTVS = Power TVS High Current Diode

Peak Current Rating
6 = 6 kA

Repetitive Standoff Voltage
058 = 58 V
076 = 76 V

Suffix
C = Bidirectional Device

Package
T = Through-Hole

Temperature
H = High Temperature Series

REV. 05/24

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