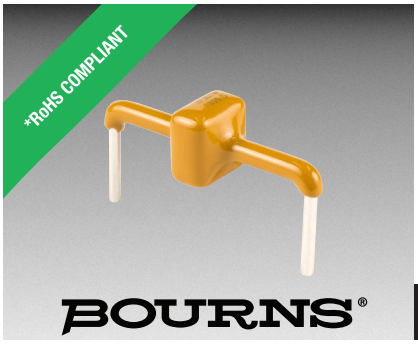



## Features

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

## Applications

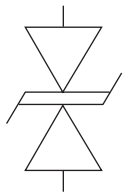
- High power DC bus protection

# PTVS3-xxxC-TH Series High Current TVS Diodes

### General Information

The Model PTVS3-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, 66 V and 76 V.

The devices are RoHS* compliant and UL Recognized (pending). 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

### Agency Approval

| Description | |
|---|---|
| UL | File Number: E313168 |

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

| Rating | | Symbol | Value | Unit |
|---|---|---|---|---|
| Repetitive Standoff Voltage | PTVS3-058C-TH<br>PTVS3-066C-TH<br>PTVS3-076C-TH | $V_{WM}$ | 58<br>66<br>76 | V |
| Peak Current Rating per 8/20 $\mu$s IEC 61000-4-5 | | $I_{PPM}$ | 3 | 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 | $\mu$A |
| $V_{(BR)}$ | Breakdown Voltage | $I_{BR}$ = 10 mA | PTVS3-058C-TH<br>PTVS3-066C-TH<br>PTVS3-076C-TH | 64<br>72<br>85 | 67<br>76<br>90 | 70<br>80<br>95 | V |
| $V_C$ | Clamping Voltage (1) per IEC61000-4-5 (8/20 $\mu$s current waveform) | $I_{PP}$ = 3 kA | PTVS3-058C-TH<br>PTVS3-066C-TH<br>PTVS3-076C-TH | | | 110<br>120<br>140 | V |
| $V_{(BR)}$ | Temperature Coefficient | | | | 0.1 | | %/°C |
| C | Capacitance | F = 10 kHz,<br>$V_d$ = 1 Vrms | PTVS3-058C-TH<br>PTVS3-066C-TH<br>PTVS3-076C-TH | | 2.3<br>2.0<br>1.7 | | nF |

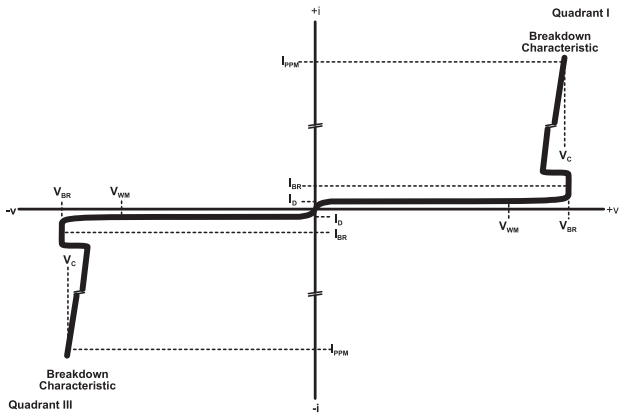
(1) $V_C$ measured at the time which is coincident with the peak surge current.

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

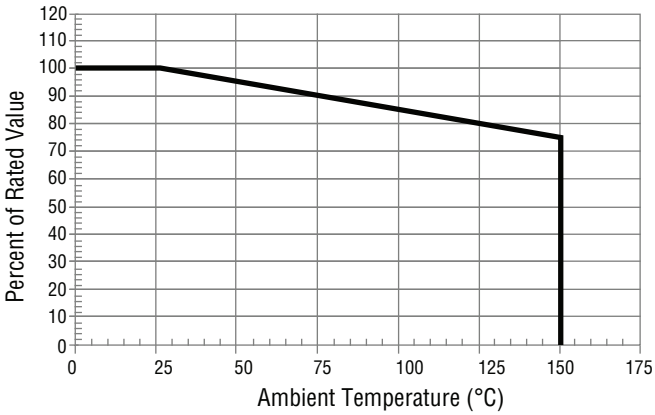
*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
Specifications are subject to change without notice.
Users should verify actual device performance in their specific applications.

## Performance Graphs

### V-I Characteristic

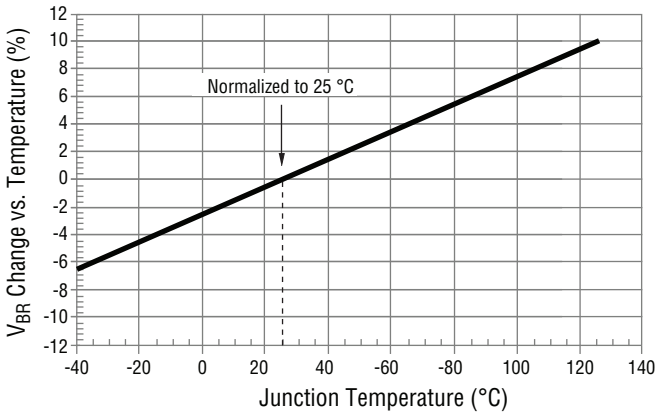



### Typical Surge Current Derating



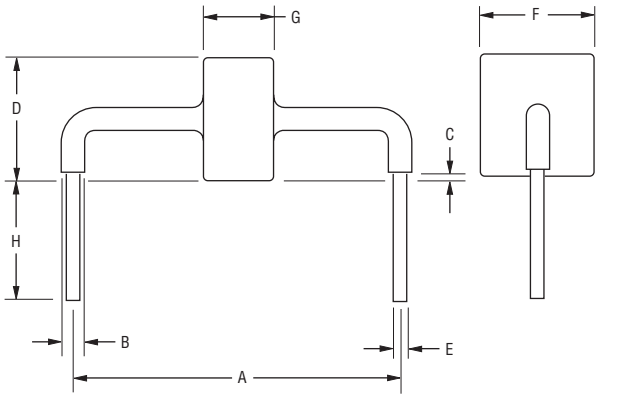

*This graph shows the typical device surge current derating versus ambient temperature when subjected to the 8/20 µs current waveform per the IEC 61000-4-5 specification. This device is not intended for continuous operation at temperatures above 125 °C.*

### Percentage $V_{BR}$ Change vs. Junction Temperature



## Product Dimensions

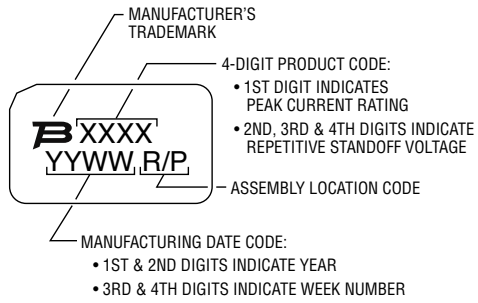
Epoxy encapsulation materials conform to UL 94V-0. Silver plated lead finish conforms to the solderability requirements of JESD22-B102, Pb free solder. Package dimensions are shown below:




DIMENSIONS: MM / (INCHES)

| Dim. | PTVS3-058C-TH | PTVS3-066C-TH | PTVS3-076C-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 | 10.80 (0.425) Max. | | |
| E | 1.25 ± 0.05 (0.049 ± 0.002) | | |
| F | 9.30 (0.366) Max. | | |
| G | 5.00 (0.197) Max. | 6.00 (0.236) Max. | 6.00 (0.236) Max. |
| H | 6.00 ± 1.00 (0.236 ± 0.039) | | |

## Typical Part Marking




## How to Order

**PTVS 3 - 076 C - T H**

Series
PTVS = Power TVS High Current Diode

Peak Current Rating
3 = 3 kA

Repetitive Standoff Voltage
058 = 58 V
066 = 66 V
076 = 76 V

Suffix
C = Bidirectional Device

Package
T = Through-Hole

Temperature
H = High Temperature Series

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