



## Features

- 10 kA, 8/20  $\mu$ s surge capability
- Low clamping voltage under surge
- Bidirectional TVS
- Excellent performance over temperature

## Applications

- AC line protection
- High power DC bus protection

# PTVS10-xxxC-TH Series High Voltage, High Current TVS Diodes

### General Information

The Model PTVS10-xxxC-TH high voltage, bidirectional TVS diode series is designed for use in AC line and high power DC bus clamping applications.



The devices are RoHS\* compliant. They also meet IEC 61000-4-5 8/20  $\mu$ s current surge requirements.

### Agency Approval

Description	
UL	File Number: <a href="#">E215609</a>

### 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	PTVS10-170C-TH	$V_{WM}$	170	V
	PTVS10-320C-TH		320	
	PTVS10-380C-TH		380	
	PTVS10-430C-TH		430	
	PTVS10-470C-TH		470	
Peak Current Rating per 8/20 $\mu$ s IEC 61000-4-5		$I_{PPM}$	10	kA
Operating Junction Temperature Range		$T_J$	-55 to +125	$^\circ\text{C}$
Storage Temperature Range		$T_S$	-55 to +150	$^\circ\text{C}$
Lead Temperature, Soldering (10 s)			260	$^\circ\text{C}$

### 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	$\mu\text{A}$
$V_{(BR)}$ Breakdown Voltage	$I_{BR} = 10\text{ mA}$	PTVS10-170C-TH 190 PTVS10-320C-TH 336 PTVS10-380C-TH 401 PTVS10-430C-TH 440 PTVS10-470C-TH 470	200 352 422 465 500	210 368 442 490 530	V
$V_C$ Clamping Voltage (1)	$I_{PP} = 10\text{ kA}$		260 440 520 580 630		V
$V_{(BR)}$ Temperature Coefficient			0.1		$\% / ^\circ\text{C}$
C Capacitance	F = 10 kHz, $V_d = 1\text{ Vrms}$	PTVS10-170C-TH PTVS10-320C-TH PTVS10-380C-TH PTVS10-430C-TH PTVS10-470C-TH	2.5 1.4 1.2 1.1 1.0		nF

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

\*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.

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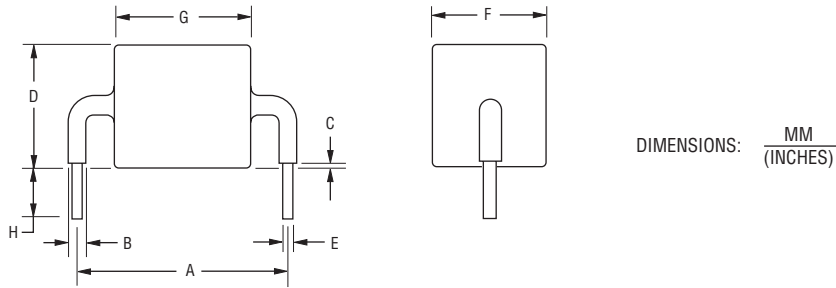


# PTVS10-xxxC-TH Series High Voltage, High Current TVS Diodes



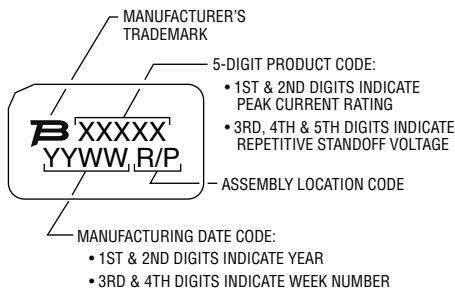
## Product Dimensions

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:

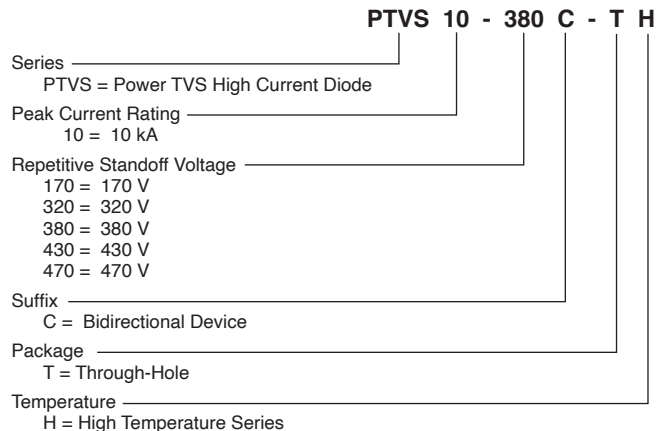


Dim.	PTVS10-170C-TH	PTVS10-320C-TH	PTVS10-380C-TH	PTVS10-430C-TH	PTVS10-470C-TH
A	$24.15 \pm 0.72$ (0.951 ± 0.028)				
B	$2.40 \pm 0.50$ (0.094 ± 0.020)				
C	$1.75 \pm 1.25$ (0.069 ± 0.049)				
D	$15.00$ Max. (0.591)				
E	$1.25 \pm 0.05$ (0.049 ± 0.002)				
F	$14.00$ Max. (0.551)				
G	$8.80$ Max. (0.346)	$14.60$ Max. (0.575)	$16.50$ Max. (0.650)	$16.50$ Max. (0.650)	$19.40$ Max. (0.764)
H	$6.00 \pm 1.00$ (0.236 ± 0.039)				

## Typical Part Marking



## How to Order



REV. 04/26

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