



## 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, high current, 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.



## Absolute Maximum Ratings (@ $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Rating	Symbol	Value	Unit
Repetitive Standoff Voltage	$V_{WM}$	170 320 380 430 470	V
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	$I_{BR} = 10\text{ mA}$	190 336 401 440 470	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, $V_d = 1\text{ Vrms}$		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 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

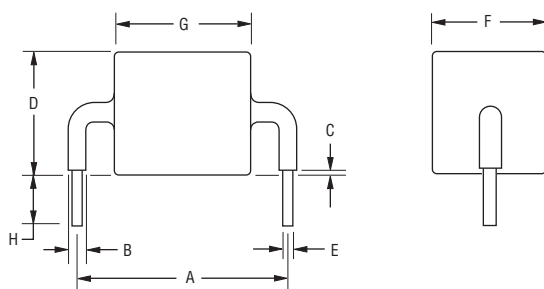


# PTVS10-xxxC-TH Series High Voltage, High Current TVS Diodes



## 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:



DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

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

## Typical Part Marking

PTVS10-170C-TH .....	10170
PTVS10-320C-TH .....	10320
PTVS10-380C-TH .....	10380
PTVS10-430C-TH .....	10430
PTVS10-470C-TH .....	10470



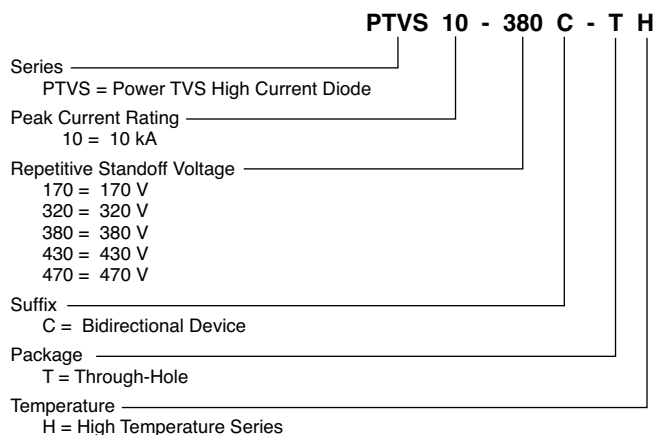
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## How to Order



REV. 11/15

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