



## Features

- 10 kA, 8/20  $\mu$ s surge capability
- Low clamping voltage under surge
- Bidirectional TVS
- Surface mount package
- Excellent overtemperature performance

## Applications

- High power DC bus protection

# PTVS10-xxxC-M Series High Current TVS Diodes

### General Information

Bourns® Model PTVS10-xxxC-M 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 are designed to meet IEC 61000-4-5 8/20  $\mu$ s current surge requirements.



### Additional Information

Click these links for more information:



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### Agency Recognition

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

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

Rating	Symbol	Value	Unit
Repetitive Standoff Voltage	$V_{WM}$	58 66 76	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	$^\circ\text{C}$

### 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	$I_{BR} = 10\text{ mA}$	64 72 85	66 76 90	70 80 95	V
$V_C$ Clamping Voltage (1)	$I_{PP} = 10\text{ kA}$			105 120 135	V
$V_{(BR)}$ Temperature Coefficient			0.1		$\%/\text{C}$
C Capacitance	$F = 10\text{ kHz}$ , $V_d = 1\text{ V}_{rms}$		7.5 6.7 5.5		nF

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



**WARNING Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)**

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

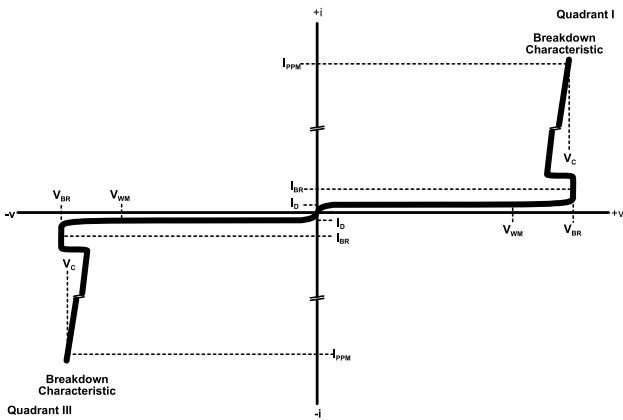
Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

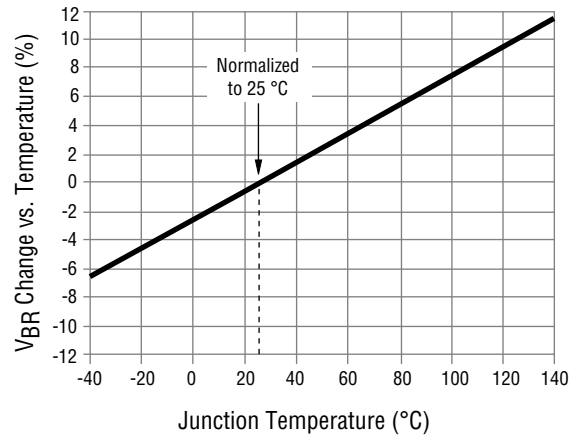
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## Performance Graphs

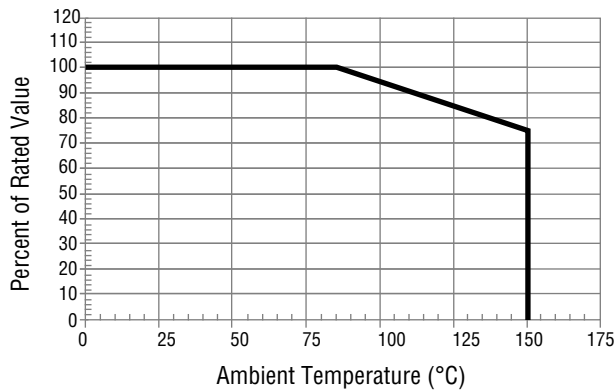
### V-I Characteristic



### Typical $V_{BR}$ vs. Junction Temperature

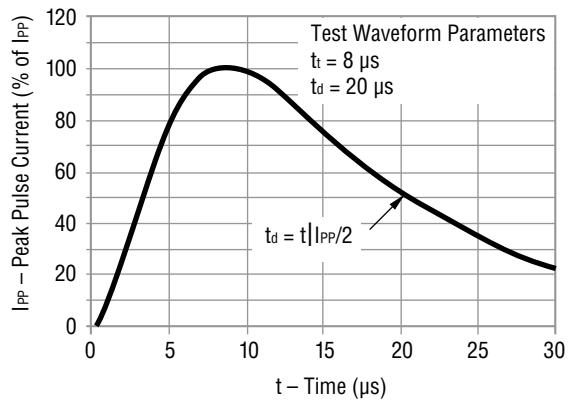


### Typical Surge Current Derating



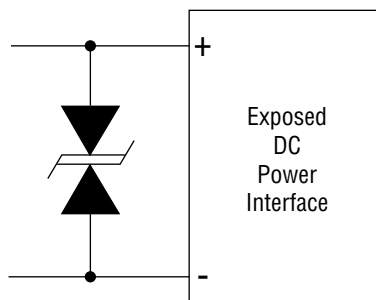
This graph shows the typical device surge current derating versus ambient temperature when subjected to the 8/20  $\mu$ s current waveform per the IEC 61000-4-5 specification. This device is not intended for continuous operation at temperatures above 125 °C.

### Current 8/20 $\mu$ s Waveform per IEC 61000-4-5



## Application

A typical application for Power TVS products includes DC power line protection.



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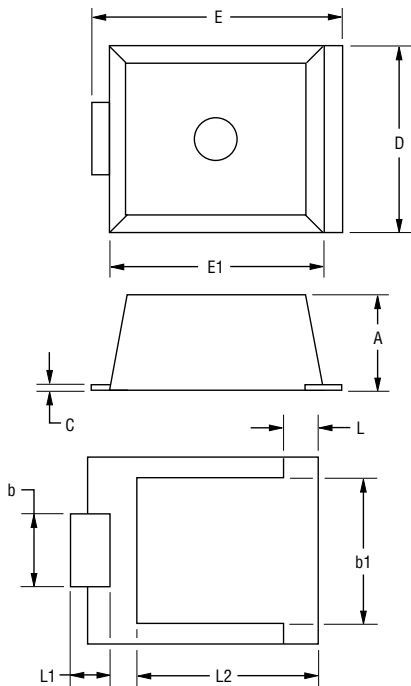
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## Product Dimensions

This is an RoHS compliant\*, molded package with 100 % Sn on the terminations, and a flammability rating of UL 94-V-0.

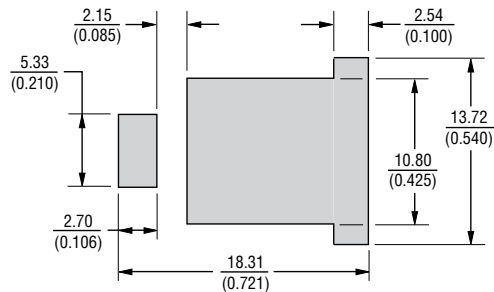


Dim.	Min.	Max.
A	$\frac{6.94}{(0.273)}$	$\frac{7.24}{(0.285)}$
b	$\frac{5.15}{(0.203)}$	$\frac{5.65}{(0.222)}$
b1	$\frac{10.55}{(0.415)}$	$\frac{11.05}{(0.435)}$
C	$\frac{0.37}{(0.015)}$	$\frac{0.45}{(0.018)}$
D	$\frac{13.45}{(0.530)}$	$\frac{14.60}{(0.575)}$
E	$\frac{17.85}{(0.703)}$	$\frac{18.72}{(0.737)}$
E1	$\frac{15.50}{(0.610)}$	$\frac{16.05}{(0.632)}$
L	$\frac{2.30}{(0.091)}$	$\frac{2.80}{(0.110)}$
L1	$\frac{2.50}{(0.098)}$	$\frac{2.90}{(0.114)}$
L2	$\frac{13.16}{(0.518)}$	$\frac{13.76}{(0.518)}$

Mold flash or protrusion shall not exceed 0.25 mm.

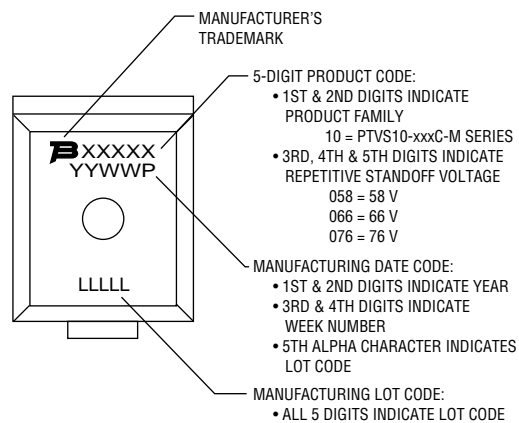
DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

## Recommended Pad Layout

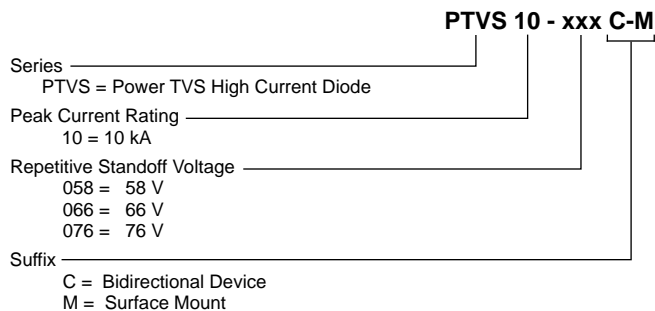


DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

## Typical Part Marking



## How to Order



## Environmental Specifications

Moisture Sensitivity Level ..... 1  
 ESD Classification (HBM).....3B

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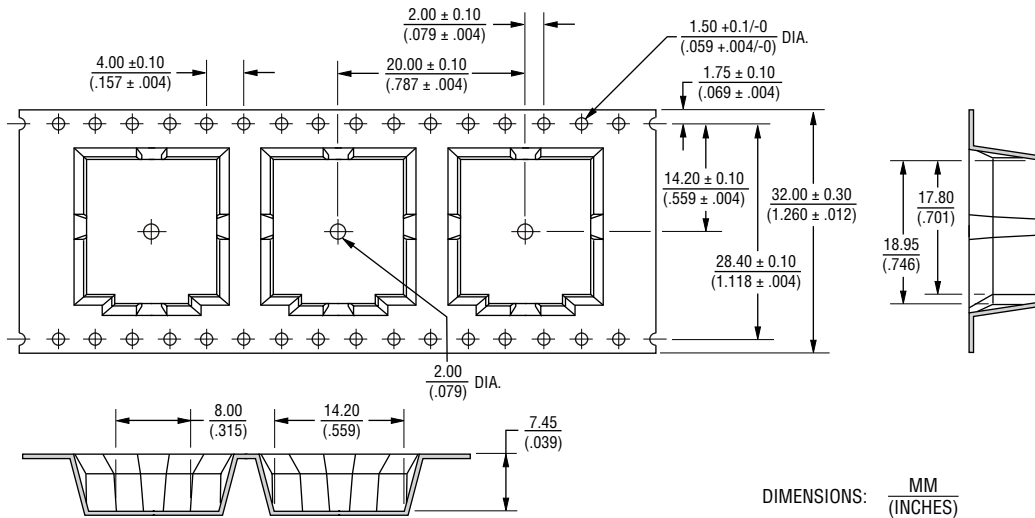
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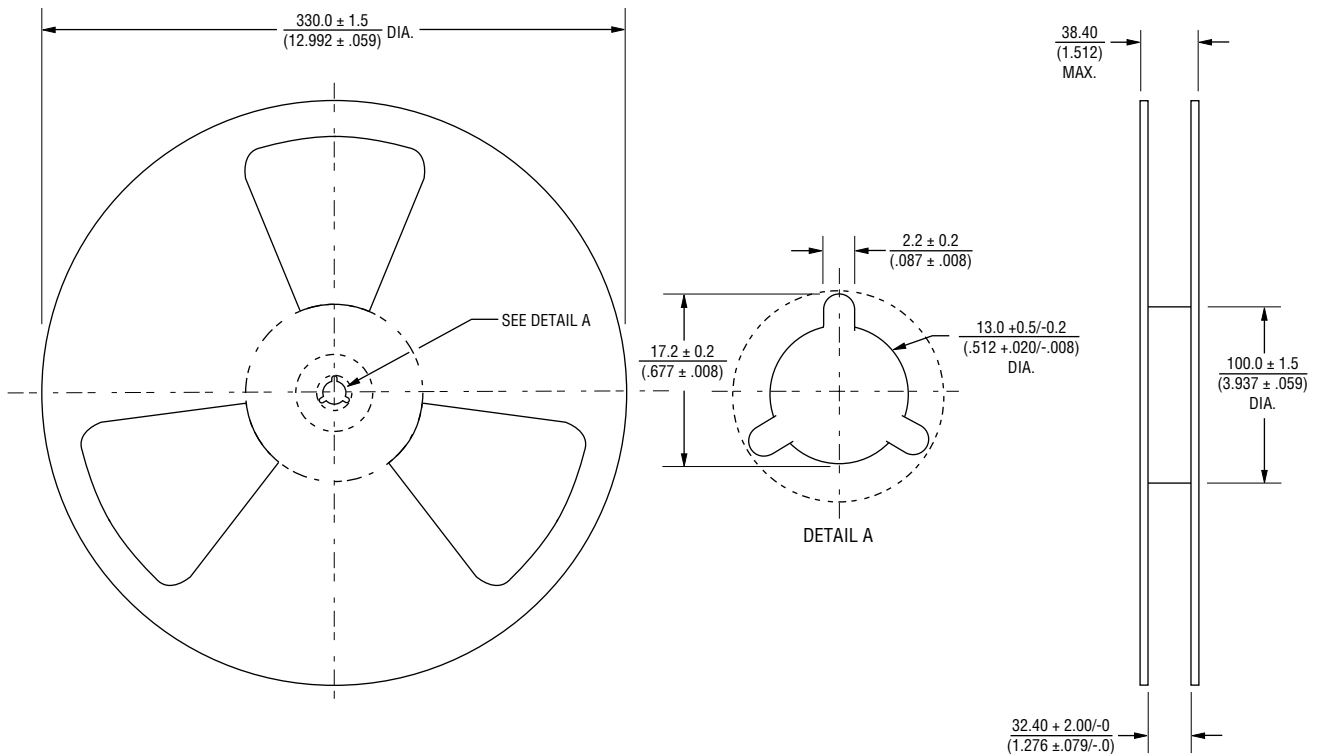
**BOURNS®**

## Packaging Information

The product will be dispensed in tape and reel format (see diagram below).



USER DIRECTION OF FEED  
400 PCS. PER REEL



REV. 01/20

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