




Features

- 6 kA, 8/20 μ s surge capability
- Low clamping voltage under surge
- Bidirectional TVS
- UL Recognized 

Applications

- AC line protection
- High power DC bus protection

PTVS6-xxxC Series High Current TVS Diodes

General Information

The PTVS6-xxxC range of high current bidirectional TVS diodes is designed for use in AC line protection and high power DC bus clamping applications. These devices offer bidirectional port protection from 380 volts to 430 volts.

The devices are RoHS* and UL compliant while also meeting IEC 61000-4-5 8/20 μ s current surge requirements.



Agency Approval

Description	
UL	File Number: Pending

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

Rating		Symbol	Value	Unit
Repetitive Standoff Voltage	PTVS6-380C PTVS6-430C	V_{WM}	380 430	V
Peak Current Rating per 8/20 μ s IEC 61000-4-5		I_{PPM}	6	kA
Operating Junction Temperature Range		T_J	-40 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	μA
$V_{(BR)}$ Breakdown Voltage	$I_{BR} = 10\text{ mA}$	PTVS6-380C PTVS6-430C	401 440	420 470	443 490	V
V_C Clamping Voltage	$I_{PP} = 6\text{ kA}$	PTVS6-380C PTVS6-430C		480 530	540 600	V
$V_{(BR)}$ Temperature Coefficient				0.1		%/ $^\circ\text{C}$
C Capacitance	$F = 10\text{ kHz}$, $V_d = 1\text{ Vrms}$	PTVS6-380C PTVS6-430C		1.1 1.0	1.5 1.3	nF

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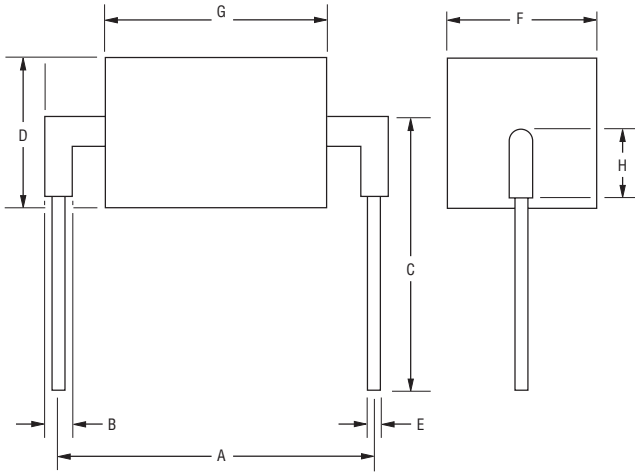
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PTVS6-xxxC Series High Current TVS Diodes

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Product Dimensions

The product is epoxy encapsulated per UL Class 94V-0 with Ag plated leads solderable per MIL-STD-750, Method 2026. The package dimensions and part marking are shown below.



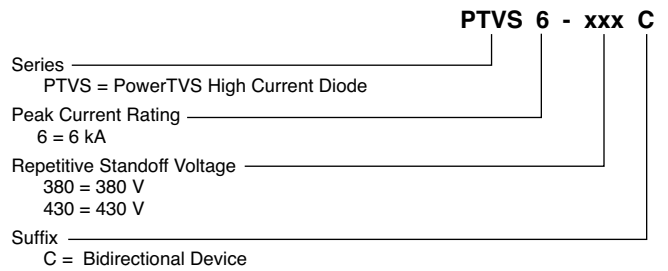
Dimension	PTVS6-380C	PTVS6-430C
A	$\frac{24.15 \pm 0.72}{(0.950 \pm 0.028)}$	$\frac{24.15 \pm 0.72}{(0.950 \pm 0.028)}$
B	$\frac{2.40}{(0.094)}$ Typ.	$\frac{2.40}{(0.094)}$ Typ.
C	$\frac{15.0}{(0.59)}$ Min.	$\frac{15.0}{(0.59)}$ Min.
D	$\frac{13.5}{(0.53)}$ Max.	$\frac{13.5}{(0.53)}$ Max.
E	$\frac{1.25 \pm 0.05}{(0.049 \pm 0.002)}$	$\frac{1.25 \pm 0.05}{(0.049 \pm 0.002)}$
F	$\frac{13.5}{(0.53)}$ Max.	$\frac{13.5}{(0.53)}$ Max.
G	$\frac{16.0}{(0.63)}$ Max.	$\frac{16.0}{(0.63)}$ Max.
H	$\frac{6.60}{(0.26)}$ Max.	$\frac{6.60}{(0.26)}$ Max.

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

Typical Part Marking

PTVS6-380C6380
 PTVS6-430C6430

How to Order

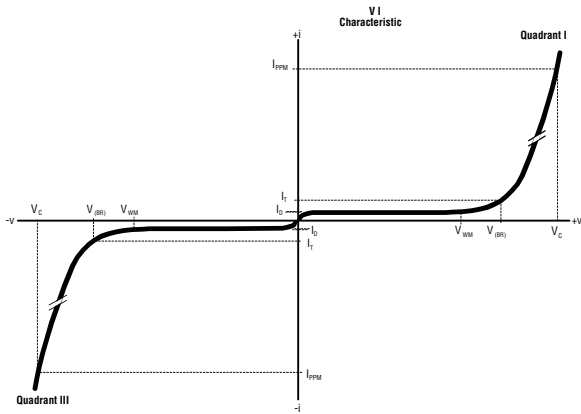


PTVS6-xxxC Series High Current TVS Diodes

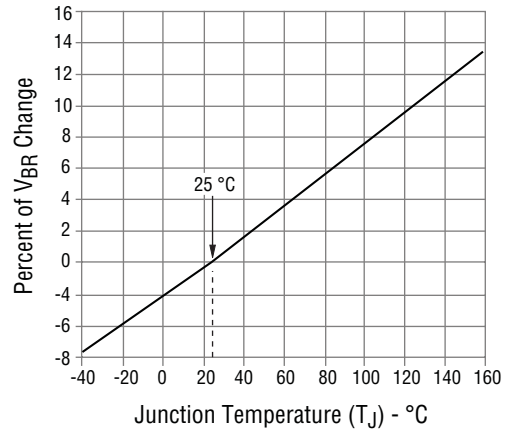
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Performance Graphs

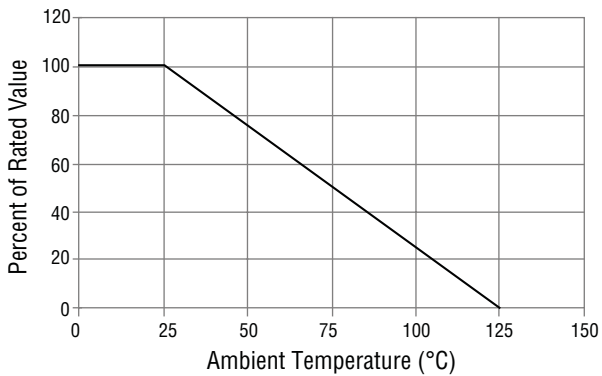
V-I Characteristic



Typical V_{BR} vs. Junction Temperature

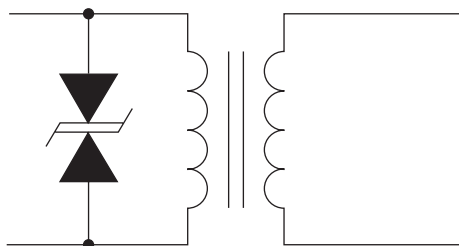


Typical Peak Power Derating



Application

A typical application for PowerTVS products includes AC power line primary protection.



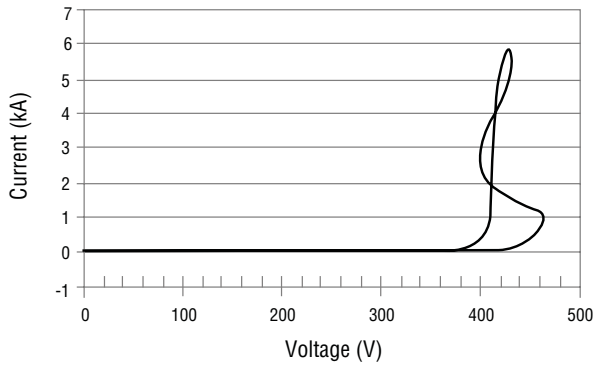
Specifications are subject to change without notice. Customers should verify actual device performance in their specific applications.

PTVS6-xxxC Series High Current TVS Diodes

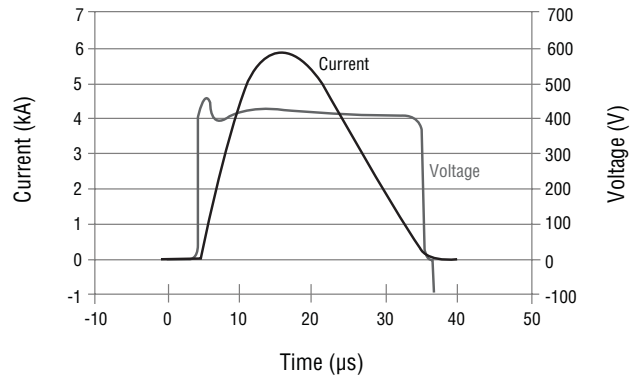
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Performance Graphs (Continued)

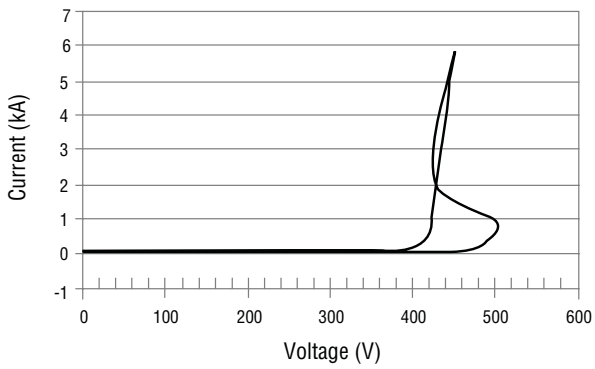
Surge Response - PTVS6-380C



Surge Response (1.2/50, 8/20 Surge) - PTVS6-380C



Surge Response - PTVS6-430C



Surge Response (1.2/50, 8/20 Surge) - PTVS6-430C

