



**THE DATASHEET OF
PTVS10-380C-TH**





Features

- 10 kA, 8/20 μ 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 μ s current surge requirements.



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 | V_{WM} | 170 320 380 430 470 | V |
| Peak Current Rating per 8/20 μ 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 | μA |
| $V_{(BR)}$ 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.



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.

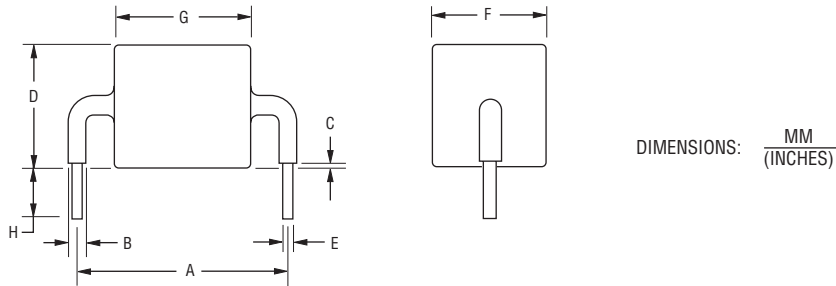
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PTVS10-xxxC-TH Series High Voltage, High Current TVS Diodes



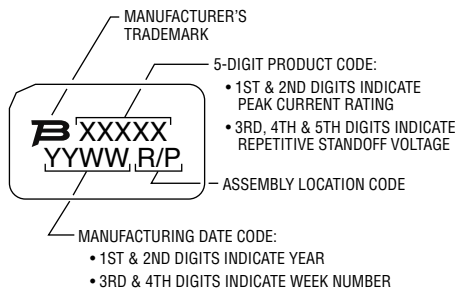
Product Dimensions

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:

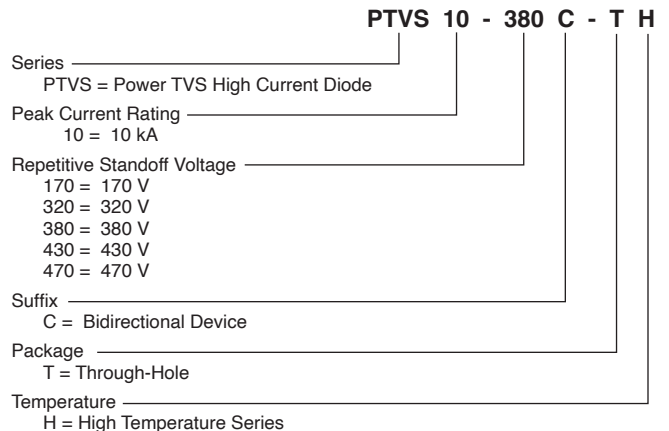


| Dim. | PTVS10-170C-TH | PTVS10-320C-TH | PTVS10-380C-TH | PTVS10-430C-TH | PTVS10-470C-TH |
|------|-------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| A | 24.15 ± 0.72 (0.951 ± 0.028) | | | | |
| B | 2.40 ± 0.50 (0.094 ± 0.020) | | | | |
| C | 1.75 ± 1.25 (0.069 ± 0.049) | | | | |
| D | 15.00 Max. (0.591) | | | | |
| E | 1.25 ± 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 ± 1.00 (0.236 ± 0.039) | | | | |

Typical Part Marking



How to Order



REV. 05/24

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