PTVS6-xxxC-M Series High Current TVS Diodes

General Information

Bourns® Model PTVS6-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 66 V and 76 V.

The devices are RoHS® compliant and are designed to meet IEC 61000-4-5 8/20 µs current surge requirements.

<table>
<thead>
<tr>
<th>Rating</th>
<th>Symbol</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repetitive Standoff Voltage</td>
<td>VWM</td>
<td>66</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>76</td>
<td></td>
</tr>
<tr>
<td>Peak Current Rating per 8/20 µs IEC 61000-4-5</td>
<td>IPPM</td>
<td>6</td>
<td>kA</td>
</tr>
<tr>
<td>Operating Junction Temperature Range</td>
<td>TJ</td>
<td>-55 to +125</td>
<td>°C</td>
</tr>
<tr>
<td>Storage Temperature Range</td>
<td>TS</td>
<td>-55 to +150</td>
<td>°C</td>
</tr>
</tbody>
</table>

Absolute Maximum Ratings (@ T_A = 25 °C Unless Otherwise Noted)

Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test Conditions</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>I_D Standby Current</td>
<td>V_D = V_WM</td>
<td></td>
<td></td>
<td>10</td>
<td>µA</td>
</tr>
<tr>
<td>V(BR) Breakdown Voltage</td>
<td>I_BR = 10 mA</td>
<td>72</td>
<td>76</td>
<td>80</td>
<td>95</td>
</tr>
<tr>
<td>V_C Clamping Voltage</td>
<td>I_PP = 6 kA</td>
<td>85</td>
<td>90</td>
<td>120</td>
<td>135</td>
</tr>
<tr>
<td>V(BR) Temperature Coefficient</td>
<td>F = 10 kHz, V_D = 1 Vrms</td>
<td>0.1</td>
<td></td>
<td></td>
<td>%/°C</td>
</tr>
<tr>
<td>C Capacitance</td>
<td></td>
<td>4.1</td>
<td>3.3</td>
<td></td>
<td>nF</td>
</tr>
</tbody>
</table>
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Performance Graphs

V-I Characteristic

![V-I Characteristic Graph](image)

Typical V_{BR} vs. Junction Temperature

![Typical V_{BR} vs. Junction Temperature](image)

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

Application

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

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

Recommended Pad Layout

Typical Part Marking

PTVS6-066C-M .................................................. 6066
PTVS6-076C-M .................................................. 6076

How to Order

PTVS 6 - xxx C-M

- Series
- Peak Current Rating
- Repetitive Standoff Voltage
- Suffix
  - C = Bidirectional Device
  - M = Surface Mount

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Packaging Information

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

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