CDSOT563-T05C – SMT TVS Diode Array

General Information

The CDSOT563-T05C device provides ESD and EFT protection for high speed data ports meeting IEC 61000-4-2 (ESD) and IEC 61000-4-4 (EFT) requirements. The Transient Voltage Suppressor array offers a Working Peak Reverse Voltage of 5 V.

The SOT563 packaged device will mount directly onto the industry standard SOT563 footprint. Bourns® Chip Diodes are easy to handle with standard pick and place equipment and the flat configuration minimizes roll away.

Electrical & Thermal Characteristics (@ TA = 25 °C Unless Otherwise Noted)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>CDSOT563-T05C</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak Pulse Power (tp = 8/20 μs)</td>
<td>PPK</td>
<td>100</td>
<td>W</td>
</tr>
<tr>
<td>Peak Pulse Current (tp = 8/20 μs)</td>
<td>PPM</td>
<td>9</td>
<td>A</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>TSTG</td>
<td>-55 to +150</td>
<td>°C</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>TOPR</td>
<td>-55 to +150</td>
<td>°C</td>
</tr>
<tr>
<td>Minimum Breakdown Voltage @ 1 mA</td>
<td>VBR</td>
<td>6</td>
<td>V</td>
</tr>
<tr>
<td>Maximum Working Peak Voltage</td>
<td>VM</td>
<td>5</td>
<td>V</td>
</tr>
<tr>
<td>Maximum Clamping Voltage @ 8/20 μs @ IPP</td>
<td>VPP</td>
<td>12</td>
<td>V</td>
</tr>
<tr>
<td>Maximum Leakage Current @ VWM</td>
<td>IL</td>
<td>1</td>
<td>μA</td>
</tr>
<tr>
<td>Maximum Forward Voltage @ 10 mA</td>
<td>VF</td>
<td>1</td>
<td>V</td>
</tr>
<tr>
<td>Typical Capacitance @ 0 V, 1 MHz</td>
<td>CP</td>
<td>40</td>
<td>pF</td>
</tr>
</tbody>
</table>

Notes:
1. See Peak Pulse Power vs. Pulse Time.

Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.
This is a molded JEDEC SOT-563 package with lead free 100% Tin (Sn) on the lead frame. It weighs approximately 15 mg and has a flammability rating of UL 94V-0.

Recommended Footprint

How To Order

CD SOT563 - T 05C

Common Code
CD = Chip Diode
Package
SOT563 = SOT-563 Package
Model
T = Transient Voltage Suppressor Diode
Maximum Working Peak Voltage
05C = 5 V

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

**Peak Pulse Power vs Pulse Time**

![Graph showing Peak Pulse Power vs Pulse Time]

- **Pw** – Peak Pulse Current (W)
- **td** – Pulse Duration (µs)
- **ESD Test Pulse**: 25 kilovolt, 1/30 ns (waveshape)
- **Test Waveform Parameters**:
  - \( t_t = 8 \) µs
  - \( t_d = 20 \) µs
  - \( t_d = t_t | IPP / 2 \)

**Overshoot & Clamping Voltage**

![Graph showing Overshoot & Clamping Voltage]

- **ESD Test Pulse**: 25 kilovolt, 1/30 ns (waveshape)

**Pulse Waveform**

![Graph showing Pulse Waveform]

**Power Derating Curve**

![Graph showing Power Derating Curve]

- **Peak Pulse Power 8/20 µs**
- **Average Power**

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

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

Devices are packed in accordance with EIA standard RS-481-A.

### Item | Symbol | SOT-563
--- | --- | ---
Carrier Width | A | 1.78 ± 0.005 (0.069 ± 0.002)
Carrier Length | B | 1.78 ± 0.005 (0.069 ± 0.002)
Carrier Depth | C | 0.69 ± 0.05 (0.027 ± 0.002)
Sprocket Hole | d | 1.55 ± 0.05 (0.061 ± 0.002)
Reel Outside Diameter | D | 178 (7.008)
Reel Inner Diameter | D₁ | 50.0 (1.969) MIN.
Feed Hole Diameter | D₂ | 13.0 ± 0.20 (0.512 ± 0.008)
Sprocket Hole Position | E | 1.75 ± 0.10 (0.069 ± 0.004)
Punch Hole Position | F | 3.50 ± 0.05 (0.138 ± 0.002)
Punch Hole Pitch | P | 4.00 ± 0.10 (0.157 ± 0.004)
Sprocket Hole Pitch | P₀ | 4.00 ± 0.10 (0.157 ± 0.004)
Embossment Center | P₁ | 2.00 ± 0.05 (0.079 ± 0.002)
Overall Tape Thickness | T | 0.20 ± 0.10 (0.008 ± 0.004)
Tape Width | W | 8.00 ± 0.20 (0.315 ± 0.008)
Reel Width | W₁ | 14.4 MAX.
Quantity per Reel | -- | 3000

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