### Electrical & Thermal Characteristics (@ $T_A = 25 \, ^\circ C$ Unless Otherwise Noted)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Test Condition</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak Pulse Current</td>
<td>$I_{PPM}$</td>
<td>($t_p = 8/20 , \mu s$)</td>
<td>6 A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>$T_{STG}$</td>
<td></td>
<td>-55</td>
<td>+25</td>
<td>+150</td>
<td>°C</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>$T_{OPR}$</td>
<td></td>
<td>-40</td>
<td>+25</td>
<td>+125</td>
<td>°C</td>
</tr>
<tr>
<td>Working Peak Voltage</td>
<td>$V_{WM}$</td>
<td></td>
<td>5 V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breakdown Voltage</td>
<td>$V_{BR}$</td>
<td>@ 1 mA, Pin 5 to Pin 2</td>
<td>6 V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leakage Current @ $V_{WM}$</td>
<td>$I_L$</td>
<td>$V_{pin5} = 5 , V$, $V_{pin2} = 0 , V$, Pin 5 to Pin 2</td>
<td>5 $\mu A$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Channel Leakage Current @ $V_{WM}$</td>
<td>$I_{CH}$</td>
<td>$V_{pin5} = 5 , V$, $V_{pin2} = 0 , V$, Any I/O to Pin 2</td>
<td>1 $\mu A$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forward Voltage</td>
<td>$V_F$</td>
<td>@ If = 15 mA</td>
<td>0.8</td>
<td>1</td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>Clamping Voltage</td>
<td>$V_{clamp,VDD}$</td>
<td>$I_{pp} = 5 , A$, $I_p = 8/20 \mu s$</td>
<td>9 V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Channel Input Capacitance</td>
<td>$C_{IN-1}$</td>
<td>$V_{pin5} = 5 , V$, $V_{pin2} = 0 , V$, $V_{IN} = 2.5 , V$, $f = 1 , MHz$</td>
<td>2</td>
<td>2.5</td>
<td></td>
<td>pF</td>
</tr>
<tr>
<td>Channel Input Capacitance</td>
<td>$C_{IN-2}$</td>
<td>$V_{pin5} = $ floated, $V_{pin2} = 0 , V$, $V_{IN} = 2.5 , V$, $f = 1 , MHz$</td>
<td>2.8</td>
<td>3.6</td>
<td></td>
<td>pF</td>
</tr>
<tr>
<td>Channel to Channel Input Capacitance</td>
<td>$C_{CROSS-1}$</td>
<td>$V_{pin5} = 5 , V$, $V_{pin2} = 0 , V$, $V_{IN} = 2.5 , V$, $f = 1 , MHz$</td>
<td>0.4</td>
<td>0.5</td>
<td></td>
<td>pF</td>
</tr>
<tr>
<td>Channel to Channel Input Capacitance</td>
<td>$C_{CROSS-2}$</td>
<td>$V_{pin5} = $ floated, $V_{pin2} = 0 , V$, $V_{IN} = 2.5 , V$, $f = 1 , MHz$</td>
<td>0.55</td>
<td>0.65</td>
<td></td>
<td>pF</td>
</tr>
</tbody>
</table>

### Features
- Lead free as standard
- RoHS compliant*
- Low capacitance - 2 pF
- ESD protection >15 kV

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Users should verify actual device performance in their specific applications.
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[WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)
Applications
■ Personal Digital Assistant (PDAs)
■ Mobile phones and accessories
■ Portable electronics
■ ADSL / VDSL cards

Product Dimensions
This is a molded SOT563 package with lead free 100 % Matte Sn on the lead frame. It weighs approximately 3 mg and has a flammability rating of UL 94V-0.

Recommended Footprint

Typical Part Marking
CDSOT563-0502.................................................. 52XY
(“X” = Date Code; “Y” = Package House)

How to Order
CD SOT563 - 05 02
Common Diode
Chip Diode
Package
SOT563 = SOT-563 Package
Working Peak Reverse Voltage
05 = 5 V (Volts)
Data Lines
02 = 2 Data Lines

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Rating & Characteristic Curves

Clamping Voltage vs. Peak Pulse Current

Pulse Waveform

Forward Clamping Voltage vs. Peak Pulse Current

Typical Variation of $C_{IN}$ vs. $V_{IN}$

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Packaging Information

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

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**Dimensions:**

**Item** | **Symbol** | **SOT563**
--- | --- | ---
Carrier Width | A | 1.78 ± 0.05 (0.069 ± 0.002)
Carrier Length | B | 1.78 ± 0.05 (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 (0.567) MAX.
Quantity per Reel | -- | 3000

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

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