1N4148

500mW High Speed Switching Diode
100 Volt

Features
- High Reliability
- Low Current Leakage
- Metalurgically Bonded Construction
- Moisture Sensitivity Level 1
- Marking: Cathode band and type number
- Lead Free Finish/RoHS Compliant (Note1) (*P*Suffix designates Compliant.)

Maximum Ratings
- Operating Temperature: -65°C to +175°C
- Storage Temperature: -65°C to +175°C
- Maximum Thermal Resistance: 300K/W Junction To Ambient

Electrical Characteristics @ 25°C Unless Otherwise Specified

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reverse Voltage</td>
<td>( V_R )</td>
<td>75V</td>
</tr>
<tr>
<td>Breakdown Voltage</td>
<td>( V_{BR} )</td>
<td>100V</td>
</tr>
<tr>
<td>Average Forward Current</td>
<td>( I_O )</td>
<td>150mA</td>
</tr>
<tr>
<td>Power Dissipation</td>
<td>( P_{TOT} )</td>
<td>500mW</td>
</tr>
<tr>
<td>Junction Temperature</td>
<td>( T_J )</td>
<td>175°C</td>
</tr>
<tr>
<td>Peak Forward Surge Current</td>
<td>( I_{FSM} )</td>
<td>2.0A, ( t_p = 1.0 \mu s )</td>
</tr>
<tr>
<td>Maximum Instantaneous Forward Voltage</td>
<td>( V_F )</td>
<td>1.0V, ( I_{FSM} = 10mA )</td>
</tr>
<tr>
<td>Maximum DC Reverse Current At Rated DC Blocking Voltage</td>
<td>( I_R )</td>
<td>25nA, 5.0µA, 50µA</td>
</tr>
<tr>
<td>Maximum Junction Capacitance</td>
<td>( C_J )</td>
<td>4.0pF, Measured at 1.0MHz, ( V_R = 0V )</td>
</tr>
<tr>
<td>Maximum Reverse Recovery Time</td>
<td>( T_{rr} )</td>
<td>4.0ns</td>
</tr>
</tbody>
</table>

*Pulse test: Pulse width 300 µsec, Duty cycle 2%

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Figure 1
Typical Forward Characteristics

![Graph showing typical forward characteristics for 1N4148 with x-axis in Volts and y-axis in MilliAmps.]

Figure 2
Power Dissipation Derating Curve

![Graph showing power dissipation derating curve for 1N4148 with x-axis in Junction Temperature (°C) and y-axis in Admissable Power Dissipation (MilliWatts).]

Figure 3
Junction Capacitance

![Graph showing junction capacitance for 1N4148 with x-axis in Reverse Voltage (Volts) and y-axis in Junction Capacitance (pF).]
1N4148

Figure 4
Typical Reverse Characteristics

Figure 5
Peak Forward Surge Current

Instantaneous Reverse Leakage Current - NanoAmperes versus
Junction Temperature - °C

Peak Forward Surge Current - Amperes versus
Number Of Cycles At 60Hz - Cycles