1SV263

PIN Diode
Single PIN Diode for VHF, UHF and AGC
50V, 50mA, \( r_s=\text{typ} \ 2.5\Omega \), MCP

Features

- Ultrasmall-sized package facilitates high-density mounting and permits 1SV263-applied equipment to be made smaller
- Small interterminal capacitance (\( C=0.23\mu\text{F typ} \))
- Small forward series resistance (\( r_s=2.5\Omega \) typ)

Specifications

Absolute Maximum Ratings at \( T_a=25^\circ \text{C} \)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Conditions</th>
<th>Ratings</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reverse Voltage</td>
<td>( V_R )</td>
<td></td>
<td>50</td>
<td>V</td>
</tr>
<tr>
<td>Forward Current</td>
<td>( I_F )</td>
<td></td>
<td>50</td>
<td>mA</td>
</tr>
<tr>
<td>Allowable Power Dissipation</td>
<td>( P )</td>
<td></td>
<td>100</td>
<td>mW</td>
</tr>
<tr>
<td>Junction Temperature</td>
<td>( T_j )</td>
<td></td>
<td>125</td>
<td>°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>( T_{stg} )</td>
<td></td>
<td>-55 to +125</td>
<td>°C</td>
</tr>
</tbody>
</table>

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Package Dimensions

unit : mm (typ)
7023A-005

Product & Package Information

- Package : MCP
- JEITA, JEDEC : SC-70, SOT-323
- Minimum Packing Quantity : 3,000 pcs./reel

Packing Type: TL

Marking

Electrical Connection

1 : Anode
2 : No Contact
3 : Cathode

MCP
1SV263

Electrical Characteristics at Ta=25°C

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Conditions</th>
<th>Ratings</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reverse Voltage</td>
<td>$V_R$</td>
<td>$I_R=10\mu A$</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Reverse Current</td>
<td>$I_R$</td>
<td>$V_R=50V$</td>
<td>0.1</td>
<td>$\mu A$</td>
</tr>
<tr>
<td>Forward Voltage</td>
<td>$V_F$</td>
<td>$I_F=50mA$</td>
<td>0.91</td>
<td>0.95</td>
</tr>
<tr>
<td>Interterminal Capacitance</td>
<td>$C$</td>
<td>$V_R=50V,f=1MHz$</td>
<td>0.23</td>
<td>0.4</td>
</tr>
<tr>
<td>Series Resistance</td>
<td>$r_s$</td>
<td>$I_F=5mA,f=100MHz$</td>
<td>4.0</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$I_F=10mA,f=100MHz$</td>
<td>2.5</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Ordering Information

<table>
<thead>
<tr>
<th>Device</th>
<th>Package</th>
<th>Shipping</th>
<th>memo</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SV263-TL-E</td>
<td>MCP</td>
<td>3,000pcs./reel</td>
<td>Pb Free</td>
</tr>
</tbody>
</table>

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Forward Current, $I_F$ – mA
Forward Voltage, $V_F$ – V

Interterminal Capacitance, $C$ – pF

Reverse Voltage, $V_R$ – V
Reverse Current, $I_R$ -- mA
Reverse Voltage, $V_R$ -- V
Series Resistance, $r_S$ -- Ω
Forward Current, $I_F$ -- mA
Frequency, $f$ -- MHz

Ta = 25°C
Ta = 75°C
Ta = 100°C

$I_F = 100μA$
$1mA$
$5mA$
$10mA$

$F = 100MHz$
$1MHz$
$10MHz$
1. Packing Format

<table>
<thead>
<tr>
<th>Package Name</th>
<th>Carrier Tape Type</th>
<th>Maximum Number of Devices (unit: box)</th>
<th>Packing format</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCP</td>
<td>MCP</td>
<td>3,000 15,000 90,000</td>
<td>Outer BOX (A-7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Inner BOX (C-1)</td>
</tr>
</tbody>
</table>

Reel label, Inner box label (unit: mm)

Outer box label

It is a label at the time of factory shipments. The form of a label may change in physical distribution process.

Packing method

Type No.
LOT No.
Quantity
Origin

Reel label

NOTE (1) The LEAD FREE description shows that the surface treatment of the terminal is lead free.

Label | JEITA Phase
---|---
LEAD FREE 3 | JEITA Phase 3A
LEAD FREE 4 | JEITA Phase 3

2. Taping configuration

2-1. Carrier tape size (unit: mm)

When a device is mounted

\[

d_{1} = 1.5 \pm 0.1
\]

\[

d_{2} = 2.0 \pm 0.05
\]

2-2. Device placement direction

Device mounting recess square hole

Those with one electrode terminal on the feed hole side.....TL

No.4510-4/6
Outline Drawing
1SV263-TL-E

<table>
<thead>
<tr>
<th>Mass (g)</th>
<th>Unit</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.006</td>
<td>mm</td>
<td></td>
</tr>
</tbody>
</table>

Land Pattern Example

Unit: mm

0.7
0.65
0.65
2.1
10