1SV315

PIN Diode
Dual series PIN Diode for VHF, UHF and AGC
50V, 50mA, $r_S=\text{typ} 6\Omega$, MCP

Features
- Ultrasmall-sized package facilitates high-density mounting and permits 1SV315-applied equipment to be made smaller
- Small interterminal capacitance (C=0.23pF 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>
</tbody>
</table>
| Storage Temperature | $T_{stg}$ | -55 to +125 | °C |}

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-007

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 : Cathode
3 : Cathode / Anode

MCP
### Electrical Characteristics at $T_a=25^\circ C$

<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>V</td>
</tr>
<tr>
<td>Reverse Current</td>
<td>$I_R$</td>
<td>$V_R=50V$</td>
<td></td>
<td>μA</td>
</tr>
<tr>
<td>Forward Voltage</td>
<td>$V_F$</td>
<td>$I_F=50mA$</td>
<td>$0.95$</td>
<td>V</td>
</tr>
<tr>
<td>Interterminal Capacitance</td>
<td>$C$</td>
<td>$V_R=50V, f=1MHz$</td>
<td>$0.23$</td>
<td>pF</td>
</tr>
<tr>
<td>Series Resistance</td>
<td>$r_S$</td>
<td>$I_F=10\mu A, f=100MHz$</td>
<td>$2400$</td>
<td>Ω</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$I_F=10mA, f=100MHz$</td>
<td>$4$</td>
<td></td>
</tr>
</tbody>
</table>

Note: The specifications shown above are for each individual diode.

### Ordering Information

<table>
<thead>
<tr>
<th>Device</th>
<th>Package</th>
<th>Shipping</th>
<th>memo</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SV315-TL-E</td>
<td>MCP</td>
<td>3,000pcs./reel</td>
<td>Pb Free</td>
</tr>
</tbody>
</table>
1. Packing Format

<table>
<thead>
<tr>
<th>Package Name</th>
<th>Carrier Tape Type</th>
<th>Maximum Number of Devices contained</th>
<th>Packing format</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCP</td>
<td>MCP</td>
<td>3,000 15,000 90,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Inner BOX (C-1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 reels contained</td>
<td>Dimensions: mm (external) 183 x 72 x 185</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 inner boxes contained</td>
<td>Dimensions: mm (external) 440 x 195 x 210</td>
</tr>
</tbody>
</table>

Reel label, Inner box label (unit: mm)

Outer box label

Packing method

NOTE (I)

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

- Ø 1.5 ± 0.1
- 2.0 ± 0.05
- 2.6 ± 0.1

(1.05)

2.3 ± 0.1

2-2. Device placement direction

Device mounting recess square hole

Feed round hole

Reel

Feed direction

TL

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

No.6261-4/6
Outline Drawing
1SV315-TL-E

Land Pattern Example

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

For reference

Unit: mm

0.65 0.65
2.1
0.7
0.65 0.65