SPECIFICATION

Silicon High Voltage Diode

**MD 8 CP 5**

RoHS Compliant

SPEC. No. OS-ES3127A

オリジン電気株式会社
Origin Electric Co., Ltd
1. STRUCTURE
Diffused Junction Silicon Device

2. APPLICATION
Rectifier for High Frequency

3. ABSOLUTE MAXIMUM RATINGS

<table>
<thead>
<tr>
<th>Items</th>
<th>Symbol</th>
<th>Conditions</th>
<th>Ratings</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repetitive Peak Reverse Voltage</td>
<td>( V_{RM} )</td>
<td>In Oil</td>
<td>8</td>
<td>kV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In Air</td>
<td>4</td>
<td>kV</td>
</tr>
<tr>
<td>Average Rectified Forward Current</td>
<td>( I_0 )</td>
<td>In Oil To=40°C,50Hz, Square Wave</td>
<td>( \text{※1} )</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In Air To=40°C,50Hz, Square Wave</td>
<td>( \text{※1} )</td>
<td>250</td>
</tr>
<tr>
<td>Peak Forward Surge Current</td>
<td>( I_{FSM} )</td>
<td>Ta=25°C,50Hz, Sine Half Wave, Peak Value, Nonrepetitive</td>
<td>20</td>
<td>A</td>
</tr>
<tr>
<td>Operating Junction Temperature</td>
<td>( T_j )</td>
<td>—</td>
<td>(-30\sim+150)</td>
<td>°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>( T_{stg} )</td>
<td>—</td>
<td>(-30\sim+150)</td>
<td>°C</td>
</tr>
</tbody>
</table>

4. ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Items</th>
<th>Symbol</th>
<th>Conditions</th>
<th>MAX</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward Voltage</td>
<td>( V_F )</td>
<td>Ta=25°C, ( I_F =500mA )</td>
<td>14</td>
<td>V</td>
</tr>
<tr>
<td>Reverse Current</td>
<td>( I_R )</td>
<td>Ta=25°C, ( V_R=8kV )</td>
<td>10</td>
<td>( \mu ) A</td>
</tr>
<tr>
<td>Reverse Recovery Time</td>
<td>( t_{rr} )</td>
<td>Ta=25°C, ( I_F=100mA, I_R=200mA, I_{RR}=100mA )</td>
<td>75 (TYP 50)</td>
<td>ns</td>
</tr>
<tr>
<td>Junction to Oil</td>
<td>( R_{th(j-o)} )</td>
<td>On glass-epoxy Board ( \text{※1} ), In Oil</td>
<td>30</td>
<td>°C/W</td>
</tr>
<tr>
<td>Junction to Ambient</td>
<td>( R_{th(j-a)} )</td>
<td>On glass-epoxy Board ( \text{※1} ), In Air</td>
<td>70</td>
<td>°C/W</td>
</tr>
</tbody>
</table>

※1: Glass-epoxy Board (L=10mm, 20mm × 20mm Cu land)
5. Dimension

Figure 1: External Dimensions

(1) Unit: [mm]
Dimensions in millimeters

(2) Flame retardant mold resin
(UL 94 V-0) pass

(3) Terminal material: Cu

(4) Terminal electrode plating
  - Composition: Sn
  - Thickness: More than 5 μm

(5) Approximate weight: 0.6 g

(6) Part Name Marking: 8CP5

(7) Lot Number Marking: 「Year = first digit」「Month = 1~9, O,N,D」
※e.g. 2014/11 = 4N

Figure 2: Marking drawing
6. FORWARD CHARACTERISTICS

7. AVERAGE RECTIFIED FORWARD CURRENT