**Description**

The EG1 is a fast recovery diode of 400 V / 0.8 A. The maximum $t_{rr}$ of 100 ns is realized by optimizing a life-time control.

**Features**

- $V_{RM} =$ 400 V
- $I_{F(AV)} =$ 0.8 A
- $V_F =$ 1.8 V
- $t_{rr} =$ 100 ns
- Bare Leads: Pb-free (RoHS Compliant)

**Applications**

- Secondary Side Rectifier Diode (Flyback Converter, LLC Converter, etc.)
- Freewheel Diode (Offline Buck and Buck-boost Converter)

**Package**

Axial ($\phi 2.7 \times 5.0L / \phi 0.78$)

![Diagram of package and cathode mark]
Absolute Maximum Ratings

Unless otherwise specified, $T_A = 25 \, ^\circ\text{C}$

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Rating</th>
<th>Unit</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak Repetitive Reverse Voltage</td>
<td>$V_{RSM}$</td>
<td>400</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Repetitive Reverse Voltage</td>
<td>$V_{RM}$</td>
<td>400</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Average Forward Current</td>
<td>$I_{F(AV)}$</td>
<td>0.8</td>
<td>A</td>
<td>See Figure 2 and Figure 3</td>
</tr>
<tr>
<td>Surge Forward Current</td>
<td>$I_{FSM}$</td>
<td>15</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>$t^2$ Limiting Value</td>
<td>$t^2$</td>
<td>1.125</td>
<td>A²s</td>
<td>$1 , \text{ms} \leq t \leq 10 , \text{ms}$</td>
</tr>
<tr>
<td>Junction Temperature</td>
<td>$T_J$</td>
<td>−40 to 150</td>
<td>°C</td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>$T_{STG}$</td>
<td>−40 to 150</td>
<td>°C</td>
<td></td>
</tr>
</tbody>
</table>

Electrical Characteristics

Unless otherwise specified, $T_A = 25 \, ^\circ\text{C}$

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Conditions</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward Voltage Drop</td>
<td>$V_F$</td>
<td>$T_J = 25 , ^\circ\text{C}, I_F = 0.8 , \text{A}$</td>
<td>—</td>
<td>—</td>
<td>1.8</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$T_J = 100 , ^\circ\text{C}, I_F = 0.8 , \text{A}$</td>
<td>—</td>
<td>1.01</td>
<td>—</td>
<td>V</td>
</tr>
<tr>
<td>Reverse Leakage Current</td>
<td>$I_R$</td>
<td>$V_R = V_{RM}$</td>
<td>—</td>
<td>—</td>
<td>50</td>
<td>µA</td>
</tr>
<tr>
<td>Reverse Leakage Current Under High Temperature</td>
<td>$H \cdot I_R$</td>
<td>$V_R = V_{RM}, T_J = 150 , ^\circ\text{C}$</td>
<td>—</td>
<td>—</td>
<td>3</td>
<td>mA</td>
</tr>
<tr>
<td>Reverse Recovery Time</td>
<td>$t_{rr1}$</td>
<td>$I_F = I_{RP} = 100 , \text{mA}$</td>
<td>—</td>
<td>—</td>
<td>100</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td></td>
<td>90% recovery point, $T_J = 25 , ^\circ\text{C}$</td>
<td>—</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$t_{rr2}$</td>
<td>$I_F = 100 , \text{mA}, I_{RP} = 200 , \text{mA}$</td>
<td>—</td>
<td>—</td>
<td>50</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td></td>
<td>75% recovery point, $T_J = 25 , ^\circ\text{C}$</td>
<td>—</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermal Resistance$^{(1)}$</td>
<td>$R_{th(J-L)}$</td>
<td>See Figure 1</td>
<td>—</td>
<td>—</td>
<td>17</td>
<td>°C/W</td>
</tr>
</tbody>
</table>

![Figure 1](https://www.sanken-ele.co.jp/en)  
Lead Temperature Measurement Conditions

$^{(1)}R_{th(J-L)}$ is thermal resistance between junction and lead.
Rating and Characteristic Curves

Figure 2. $I_{\text{F(AV)}}$ vs. $T_L$ Typical Characteristics\(^{(2)}\) ($V_R = 0$ V)

Figure 3. $I_{\text{F(AV)}}$ vs. $T_L$ Typical Characteristics\(^{(2)}\) ($V_R = 400$ V)

Figure 4. $V_F$ vs. $I_F$ Typical Characteristics

Figure 5. $V_R$ vs. $I_R$ Typical Characteristics

\(^{(2)}\) See Figure 1 for the lead temperature measurement conditions.
Physical Dimensions

- Axial (φ2.7 x 5.0L / φ0.78)

![Diagram showing physical dimensions](image)

NOTES:
- Dimensions in millimeters
- Bare leads: Pb-free (RoHS compliant)
- When soldering the products, it is required to minimize the working time, within the following limits:
  - Flow: 260 ± 5 °C / 10 ± 1 s, 2 times
  - Soldering Iron: 380 ± 10 °C / 3.5 ± 0.5 s, 1 time (Soldering should be at a distance of at least 1.5 mm from the body of the product.)

Marking Diagram

![Diagram showing marking details](image)

Specific Device Code (see Table 1)

Lot Number:
- Y is the last digit of the year of manufacture (0 to 9)
- M is the month of the year (1 to 9, O, N or D)
- D is the period of days represented by:
  - : the first 10 days of the month (1st to 10th)
  - : the second 10 days of the month (11th to 20th)
  - : the last 10–11 days of the month (21st to 31st)

Table 1. Specific Device Code

<table>
<thead>
<tr>
<th>Specific Device Code</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>EG1</td>
</tr>
</tbody>
</table>
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