Description
The AG01 is a fast recovery diode of 400 V / 0.7 A. The maximum $t_r$ of 100 ns is realized by optimizing a life-time control.

Features
- $V_{RM} = 400$ V
- $I_{F(AV)} = 0.7$ A
- $V_F = 1.8$ V
- $t_{rr} = 100$ ns
- Bare Leads: Pb-free (RoHS Compliant)

Applications
- White Goods
- Audiovisual Equipment
- Lighting Equipment
- Industrial Electronic Equipment
  (Communication Equipment and Factory Automation)
- Secondary Side Rectifier Diode
  (Flyback Converter, LLC Converter, etc.)
- Freewheel Diode
  (Offline Buck and Buck-boost Converter)

Package
Axial ($\phi 2.4 \times 2.9 \text{L} / \phi 0.57$)

Cathode Mark
(1) (2)
(1) Cathode
(2) Anode
Not to scale

(1) Cathode
(2) Anode
Not to scale
Absolute Maximum Ratings

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

<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>0.7</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Surge Forward Current</td>
<td>$I_{FSM}$</td>
<td>15</td>
<td>A</td>
<td>Half cycle sine wave, positive side, 10 ms, 1 shot</td>
</tr>
<tr>
<td>$t^1$ Limiting Value</td>
<td>$I^1_t$</td>
<td>1.13</td>
<td>A$^2$s</td>
<td>$1 , ms \leq t \leq 10 , ms$</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, $T_A = 25 \, ^{\circ}C$

<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>$T_J = 25 , ^{\circ}C, I_F = 0.7 , A$</td>
<td>—</td>
<td>—</td>
<td>1.8</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$T_J = 100 , ^{\circ}C, I_F = 0.7 , A$</td>
<td>—</td>
<td>1.0</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>100</td>
<td>µA</td>
</tr>
<tr>
<td>Reverse Leakage Current Under High Temperature</td>
<td>$H \cdot I_R$</td>
<td>$V_R = V_{RM}, T_J = 100 , ^{\circ}C$</td>
<td>—</td>
<td>—</td>
<td>500</td>
<td>µA</td>
</tr>
<tr>
<td>Reverse Recovery Time</td>
<td>$I_{R1}$</td>
<td>$I_F = I_{RP} = 100 , mA$, 90% recovery point, $T_J = 25 , ^{\circ}C$</td>
<td>—</td>
<td>—</td>
<td>100</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td>$I_{R2}$</td>
<td>$I_F = 100 , mA$, $I_{RP} = 200 , mA$, 75% recovery point, $T_J = 25 , ^{\circ}C$</td>
<td>—</td>
<td>—</td>
<td>50</td>
<td>ns</td>
</tr>
<tr>
<td>Thermal Resistance$^{(1)}$</td>
<td>$R_{th(J-L)}$</td>
<td>See Figure 1</td>
<td>—</td>
<td>—</td>
<td>22</td>
<td>°C/W</td>
</tr>
</tbody>
</table>

$R_{th(J-L)}$ is thermal resistance between junction and lead.

Figure 1  Lead Temperature Measurement Conditions
Rating and Characteristic Curves

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

Figure 3. $I_{F(AV)}$ 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 (Φ2.4 × 2.9L / Φ0.57)

![Physical Dimensions Diagram]

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

![Marking Diagram]

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)

Table 1. Specific Device Code

<table>
<thead>
<tr>
<th>Specific Device Code</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>AG01</td>
</tr>
</tbody>
</table>
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