

$V_{RM} = 1000\text{ V}$ ,  $I_{F(AV)} = 0.7\text{ A}$ ,  $t_{rr} = 100\text{ ns}$   
**Fast Recovery Diode**  
**RG1C**

**Description**

The RG1C is a high voltage fast recovery diode of 1000 V / 0.7 A. The maximum  $t_{rr}$  of 100 ns is realized by optimizing a life-time control.

**Features**

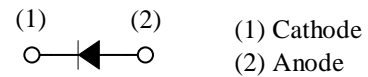
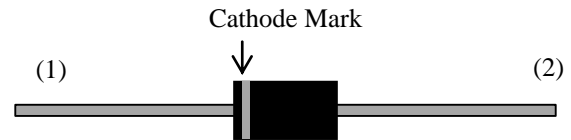
- $V_{RM}$ -----1000 V
- $I_{F(AV)}$ -----0.7 A
- $V_F$ -----3.3 V
- $t_{rr1}$ -----100 ns
- Bare Leads: Pb-free (RoHS Compliant)

**Applications**

- Snubber Diode  
(Flyback Converter, etc.)

**Package**

Axial ( $\phi 4 \times 7.2L / \phi 0.78$ )



(1) Cathode  
(2) Anode

Not to scale

## RG1C

### Absolute Maximum Ratings

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

| Parameter                       | Symbol      | Rating     | Unit             | Conditions   |
|---------------------------------|-------------|------------|------------------|--|
| Peak Repetitive Reverse Voltage | $V_{RSM}$   | 1000       | V                |  |
| Repetitive Reverse Voltage      | $V_{RM}$    | 1000       | V                |  |
| Average Forward Current         | $I_{F(AV)}$ | 0.7        | A                | See Figure 2 and Figure 3                          |
| Surge Forward Current           | $I_{FSM}$   | 10         | A                | Half cycle sine wave, positive side, 10 ms, 1 shot |
| $I^2t$ Limiting Value           | $I^2t$      | 0.5        | $A^2s$           | $1\text{ ms} \leq t \leq 10\text{ ms}$             |
| Junction Temperature            | $T_J$       | -40 to 150 | $^\circ\text{C}$ |  |
| Storage Temperature             | $T_{STG}$   | -40 to 150 | $^\circ\text{C}$ |  |

### Electrical Characteristics

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

| Parameter                                      | Symbol        | Conditions   | Min. | Typ. | Max. | Unit               |
|--|---------------|--|------|------|------|--------------------|
| Forward Voltage Drop                           | $V_F$         | $T_J = 25\text{ }^\circ\text{C}$ , $I_F = 0.7\text{ A}$  | —    | —    | 3.3  | V                  |
|  |               | $T_J = 100\text{ }^\circ\text{C}$ , $I_F = 0.7\text{ A}$   | —    | 1.7  | —    | V                  |
| Reverse Leakage Current                        | $I_R$         | $V_R = V_{RM}$   | —    | —    | 20   | $\mu\text{A}$      |
| Reverse Leakage Current Under High Temperature | $H \cdot I_R$ | $V_R = V_{RM}$ , $T_J = 150\text{ }^\circ\text{C}$   | —    | —    | 250  | $\mu\text{A}$      |
| Reverse Recovery Time                          | $t_{rr1}$     | $I_F = I_{RP} = 100\text{ mA}$<br>90% recovery point,<br>$T_J = 25\text{ }^\circ\text{C}$                        | —    | —    | 100  | ns                 |
|  | $t_{rr2}$     | $I_F = 100\text{ mA}$ ,<br>$I_{RP} = 200\text{ mA}$ ,<br>75% recovery point,<br>$T_J = 25\text{ }^\circ\text{C}$ | —    | —    | 50   | ns                 |
| Thermal Resistance <sup>(1)</sup>              | $R_{th(J-L)}$ | See Figure 1   | —    | —    | 15   | $^\circ\text{C/W}$ |

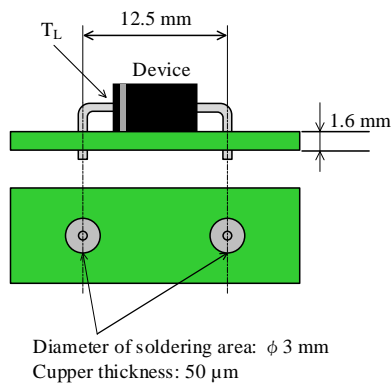


Figure 1 Lead Temperature Measurement Conditions

<sup>(1)</sup>  $R_{th(J-L)}$  is thermal resistance between junction and lead.

Rating and Characteristic Curves

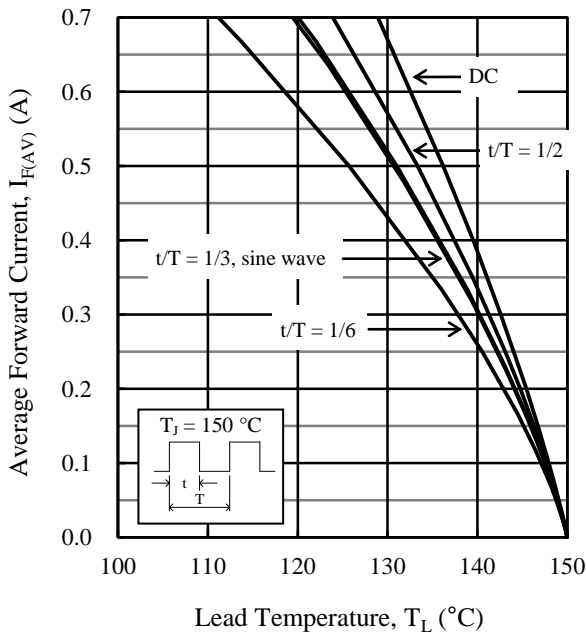


Figure 2.  $I_{F(AV)}$  vs.  $T_L$  Typical Characteristics<sup>(2)</sup>  
( $V_R = 0\text{ V}$ )

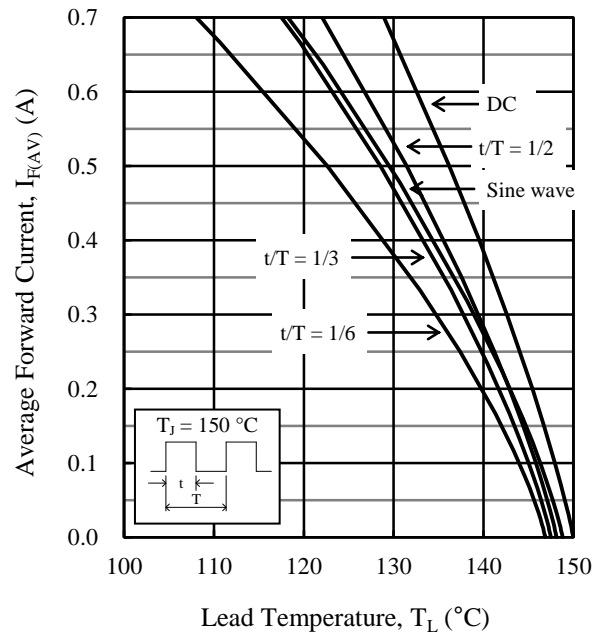


Figure 3.  $I_{F(AV)}$  vs.  $T_L$  Typical Characteristics<sup>(2)</sup>  
( $V_R = 1000\text{ V}$ )

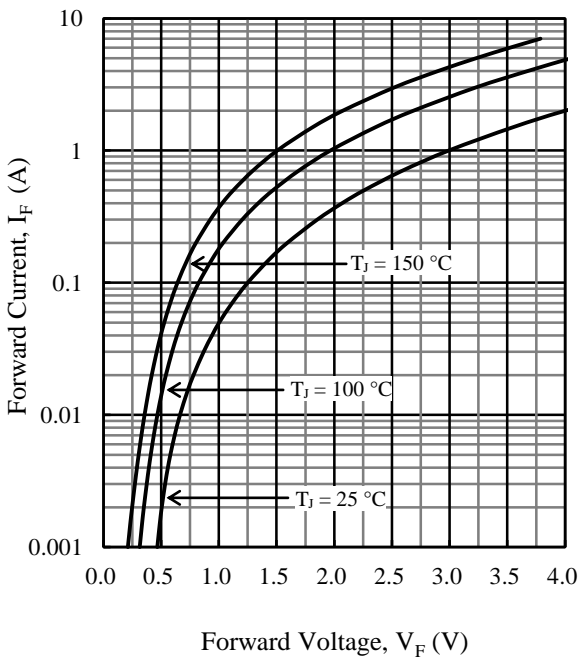


Figure 4.  $V_F$  vs.  $I_F$  Typical Characteristics

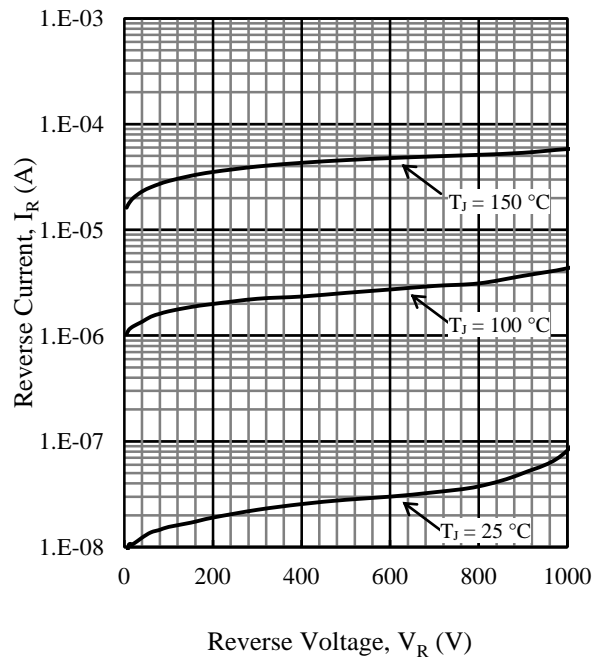


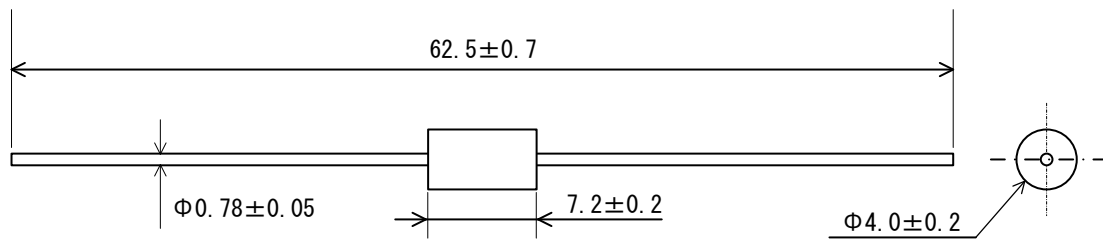
Figure 5.  $V_R$  vs.  $I_R$  Typical Characteristics

<sup>(2)</sup> See Figure 1 for the lead temperature measurement conditions.

# RG1C

## Physical Dimensions

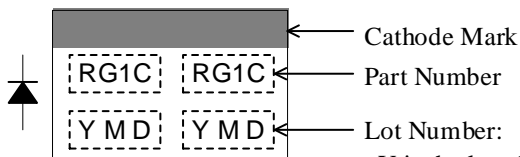
- Axial ( $\phi 4 \times 7.2L / \phi 0.78$ )



### 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:  $260 \pm 5$  °C /  $10 \pm 1$  s, 2 times
  - Soldering Iron:  $380 \pm 10$  °C /  $3.5 \pm 0.5$  s, 1 time (Soldering should be at a distance of at least 1.5 mm from the body of the product.)

## Marking Diagram



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)

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