

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

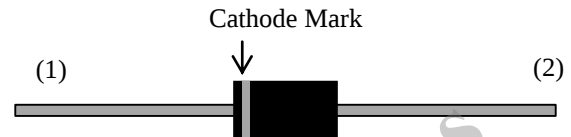
- V_{RM} -----1000 V
- $I_{F(AV)}$ -----0.7 A
- V_F -----3.3 V
- t_{rr1} -----100 ns
- Bare Leads: Pb-free (RoHS Compliant)

Applications

- Snubber Diode
(Flyback Converter, etc.)

Package

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



(1) Cathode
(2) Anode

Not to scale

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	$I_{\text{F(AV)}}$	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	$V_R = V_{\text{RM}}$	—	—	20	μA
Reverse Leakage Current Under High Temperature	$H \cdot I_R$	$V_R = V_{\text{RM}}$, $T_J = 150\text{ }^{\circ}\text{C}$	—	—	250	μA
Reverse Recovery Time	t_{rr1}	$I_F = I_{\text{RP}} = 100\text{ mA}$ 90% recovery point, $T_J = 25\text{ }^{\circ}\text{C}$	—	—	100	ns
	t_{rr2}	$I_F = 100\text{ mA}$, $I_{\text{RP}} = 200\text{ mA}$, 75% recovery point, $T_J = 25\text{ }^{\circ}\text{C}$	—	—	50	ns
Thermal Resistance ⁽¹⁾	$R_{\text{th(J-L)}}$	See Figure 1	—	—	15	$^{\circ}\text{C/W}$

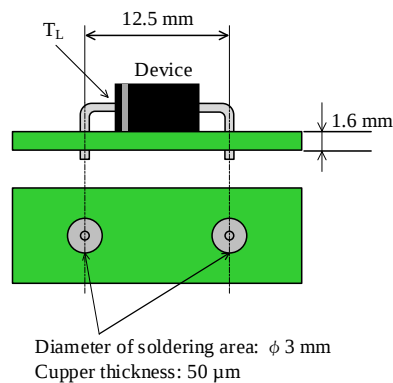


Figure 1 Lead Temperature Measurement Conditions

⁽¹⁾ $R_{\text{th(J-L)}}$ is thermal resistance between junction and lead.

Rating and Characteristic Curves

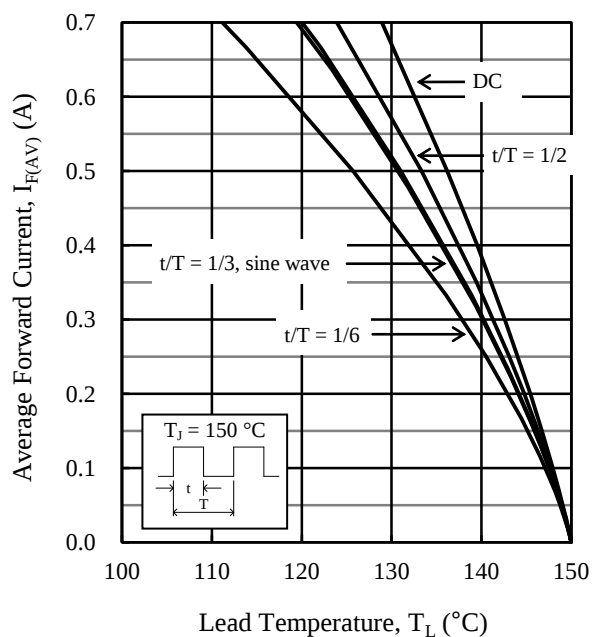


Figure 2. $I_{F(AV)}$ vs. T_L Typical Characteristics⁽²⁾
($V_R = 0$ V)

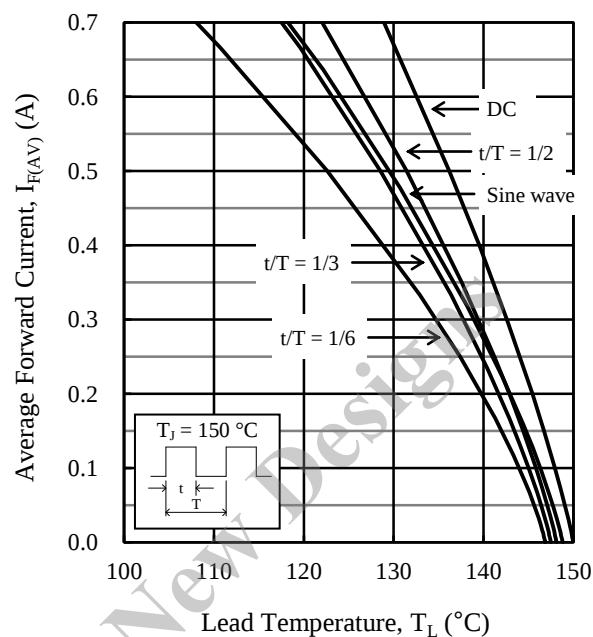


Figure 3. $I_{F(AV)}$ vs. T_L Typical Characteristics⁽²⁾
($V_R = 1000$ V)

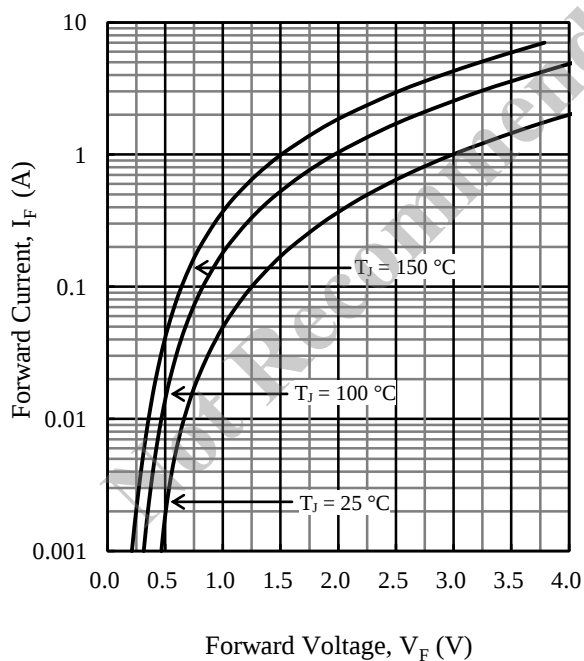


Figure 4. V_F vs. I_F Typical Characteristics

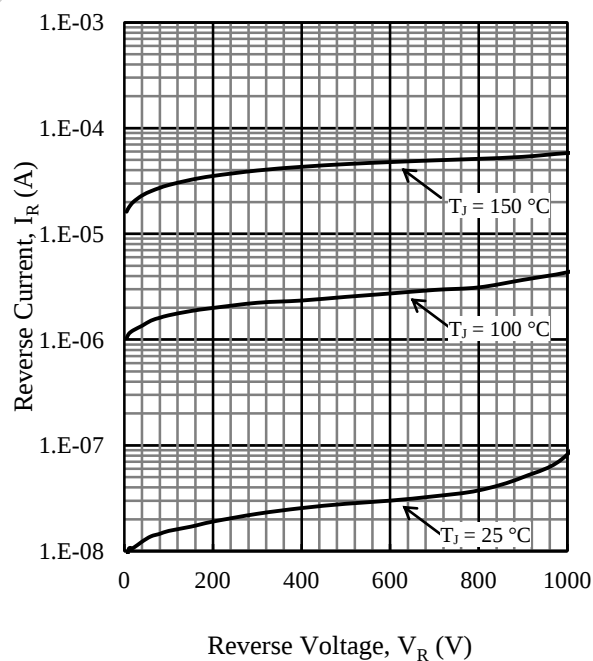


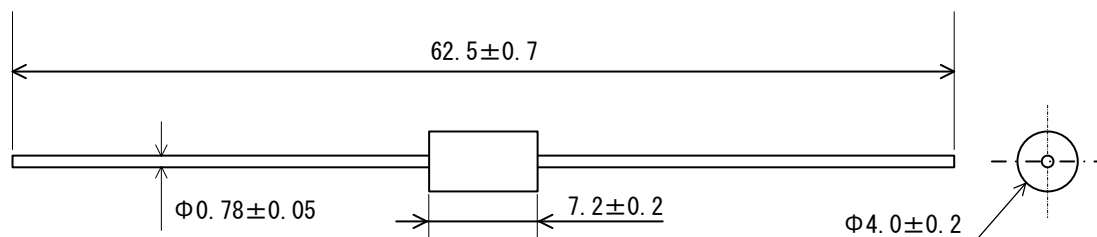
Figure 5. V_R vs. I_R Typical Characteristics

⁽²⁾ See Figure 1 for the lead temperature measurement conditions.

RG1C

Physical Dimensions

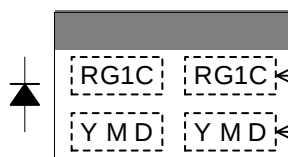
• Axial ($\phi 4 \times 7.2L / \phi 0.78$)



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 ± 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



← Cathode Mark

← Part Number

← 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)

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