V_{RM} = 2000 V, $I_{F(AV)}$ = 0.1 A, t_{rr} = 100 ns
Fast Recovery Diode

RP1H

Data Sheet

Description

The RP1H is a high voltage fast recovery diode of 2000 V / 0.1 A. The maximum t_{rr} of 100 ns is realized by optimizing a life-time control.

Features

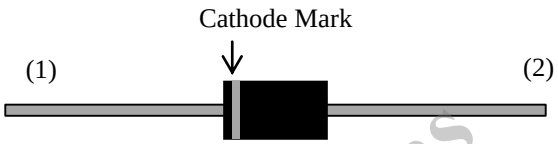
- V_{RM} ---------- 2000 V
- $I_{F(AV)}$ ---------- 0.1 A
- V_F ---------- 7.0 V
- t_{rr1} ---------- 100 ns
- Bare Leads: Pb-free (RoHS Compliant)

Applications

- Sunuber Diode
  (Flyback Converter, etc.)

Package

Axial (φ4 × 7.2L / φ0.78)



(1) Cathode
(2) Anode

Not to scale

Absolute Maximum Ratings

Unless otherwise specified, T_A = 25 °C

Parameter	Symbol	Rating	Unit	Conditions
Peak Repetitive Reverse Voltage	V_{RSM}	2000	V	
Repetitive Reverse Voltage	V_{RM}	2000	V	
Average Forward Current	$I_{F(AV)}$	0.1	A	See Figure 2 and Figure 3
Surge Forward Current	I_{FSM}	5	A	Half cycle sine wave, positive side, 10 ms, 1 shot
I^2t Limiting Value	I^2t	0.125	A^2s	1 ms ≤ t ≤ 10 ms
Junction Temperature	T_J	−40 to 150	°C	
Storage Temperature	T_{STG}	−40 to 150	°C	

Electrical Characteristics

Unless otherwise specified, T_A = 25 °C

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward Voltage Drop	V_F	T_J = 25 °C, I_F = 0.1 A	—	—	7.0	V
		T_J = 100 °C, I_F = 0.1 A	—	2.0	—	V
Reverse Leakage Current	I_R	$V_R = V_{RM}$,	—	—	2	μA
Reverse Leakage Current Under High Temperature	H·I_R	$V_R = V_{RM}$, T_J = 100 °C	—	—	10	μA
Reverse Recovery Time	t_{rr1}	$I_F = I_{RP}$ = 100 mA 90% recovery point, T_J = 25 °C	—	—	100	ns
	t_{rr2}	I_F = 100 mA, I_{RP} = 200 mA, 75% recovery point, T_J = 25 °C	—	—	50	ns
Thermal Resistance [1]	$R_{th(J-L)}$	See Figure 1	—	—	15	°C/W

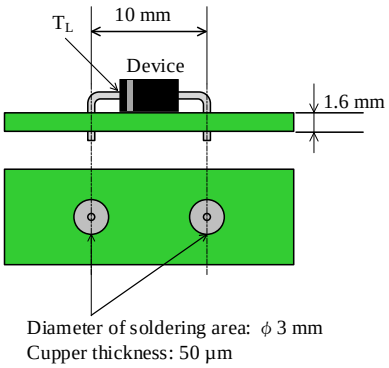


Figure 1 Lead Temperature Measurement Conditions

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

Rating and Characteristic Curves

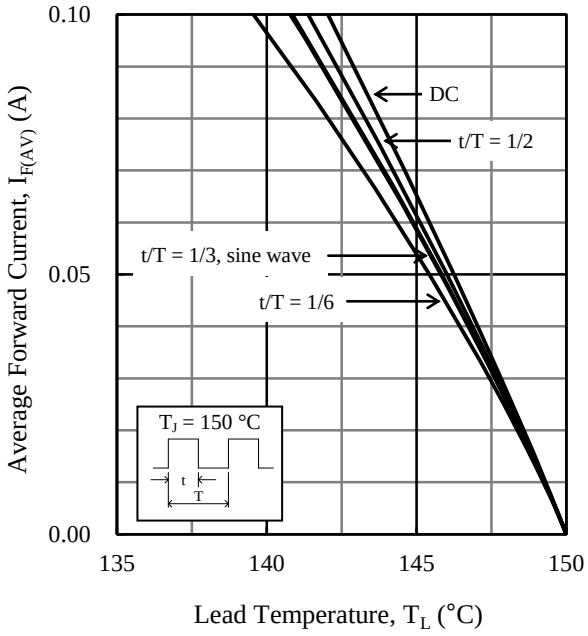


Figure 2. $I_{F(AV)}$ vs. T_L Typical Characteristics[(2)]
(V_R = 0 V)

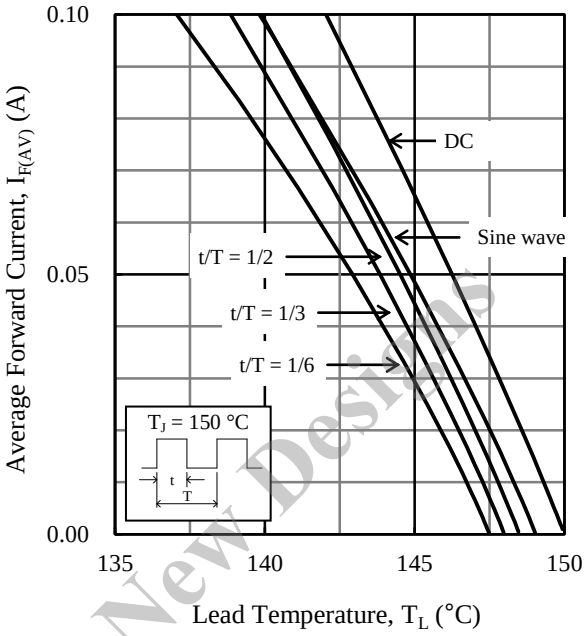


Figure 3. $I_{F(AV)}$ vs. T_L Typical Characteristics[(2)]
(V_R = 2000 V)

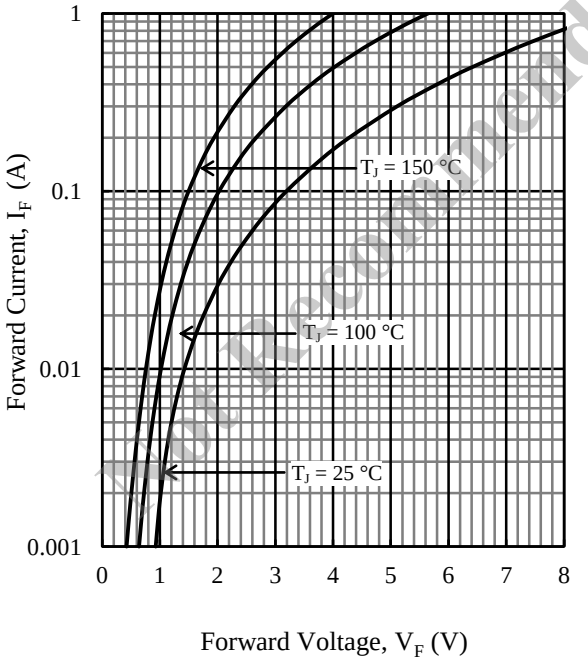


Figure 4. V_F vs. I_F Typical Characteristics

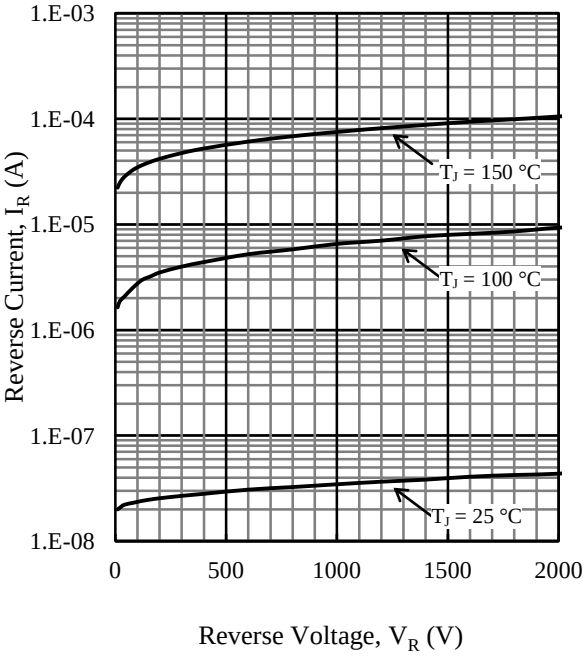
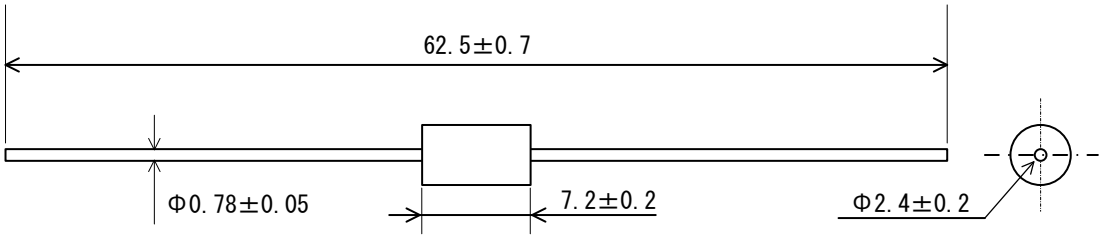


Figure 5. V_R vs. I_R Typical Characteristics

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

Physical Dimensions

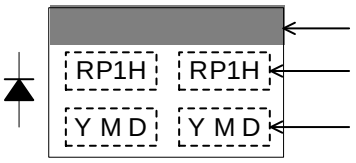
● **Axial (φ4 × 7.2L / φ0.78)**



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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