V_{RM} = 1000 V, $I_{F(AV)}$ = 0.2 A, t_{rr} = 200 ns
Fast Recovery Diode

EP01C

Data Sheet

Description

The EP01C is a high voltage fast recovery diode of 1000 V / 0.2 A. The maximum t_{rr} of 200 ns is realized by optimizing a life-time control.

Features

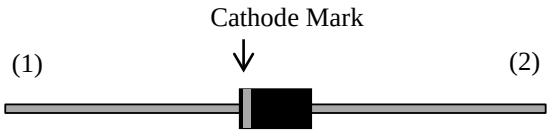
- V_{RM} ---------- 1000 V
- $I_{F(AV)}$ ---------- 0.2 A
- V_F ---------- 4.0 V
- t_{rr1} ---------- 200 ns
- Bare Leads: Pb-free (RoHS Compliant)
- Flammability: Equivalent to UL94V-0

Applications

- Sunuber Diode
  (Flyback Converter, etc.)

Package

Axial (φ2.7 × 5.0L / φ0.6)



(1) Cathode
(2) Anode

Not to scale

Absolute Maximum Ratings

Unless otherwise specified, T_A = 25 °C.

Parameter	Symbol	Conditions	Rating	Unit
Nonrepetitive Peak Reverse Voltage	V_{RSM}		1050	V
Repetitive Peak Reverse Voltage	V_{RM}		1000	V
Average Forward Current	$I_{F(AV)}$	See Figure 2 and Figure 3	0.2	A
Surge Forward Current	I_{FSM}	Half cycle sine wave, positive side, 10 ms, 1 shot	5	A
I^2t Limiting Value	I^2t	1 ms ≤ t ≤ 10 ms	0.125	A^2s
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 = 0.2 A	—	—	4.0	V
		T_J = 100 °C, I_F = 0.2 A	—	1.3	—	V
Reverse Leakage Current	I_R	$V_R = V_{RM}$	—	—	5	µA
Reverse Leakage Current under High Temperature	$H \cdot I_R$	$V_R = V_{RM}$, T_J = 100 °C	—	—	50	µA
Reverse Recovery Time	t_{rr1}	$I_F = I_{RP}$ = 100 mA, 90% recovery point, T_J = 25 °C	—	—	200	ns
	t_{rr2}	I_F = 100 mA, I_{RP} = 200 mA, 75% recovery point, T_J = 25 °C	—	—	80	ns
Thermal Resistance [1]	$R_{th(J-L)}$	See Figure 1	—	—	20.0	°C/W

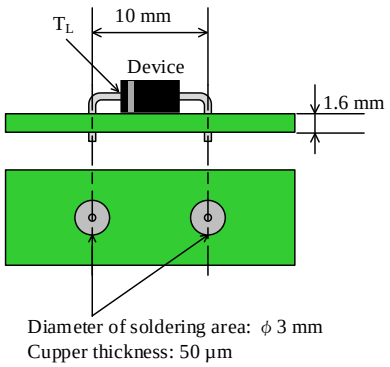


Figure 1. Lead Temperature Measurement Conditions

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

Rating and Characteristic Curves

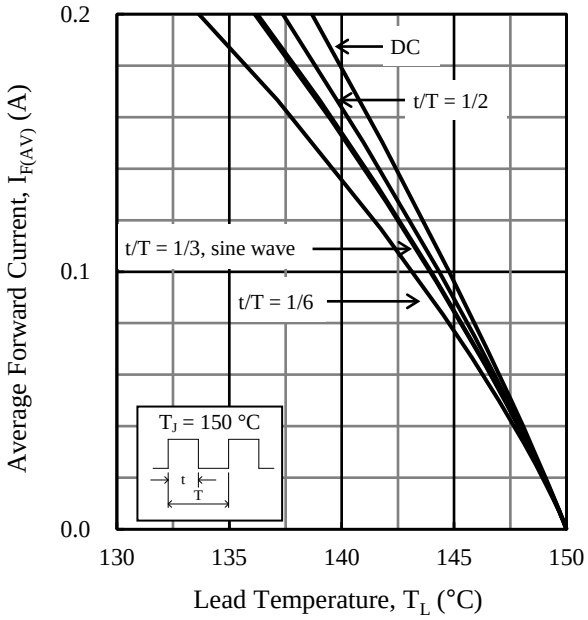


Figure 2. Typical Characteristics: $I_{F(AV)}$ vs. T_L[(2)] (V_R = 0 V)

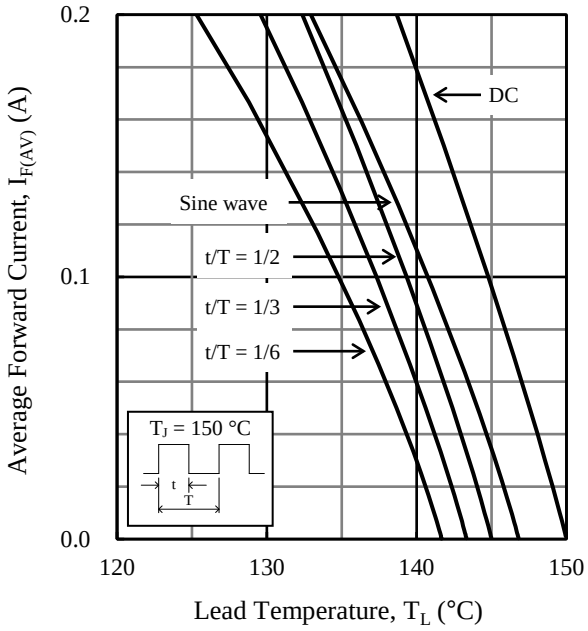


Figure 3. Typical Characteristics: $I_{F(AV)}$ vs. T_L[(2)] (V_R = 1000 V)

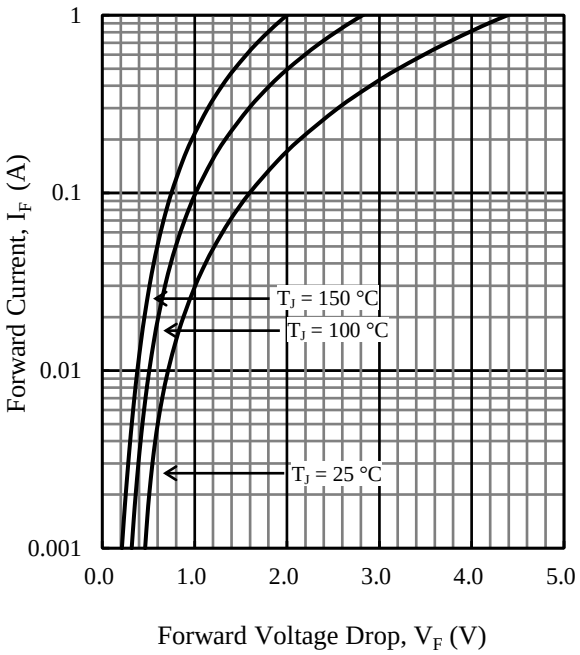


Figure 4. Typical Characteristics: I_F vs. V_F

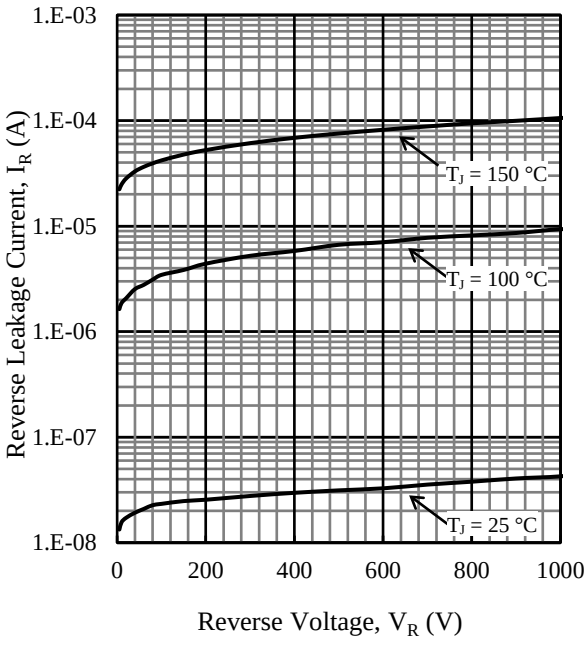
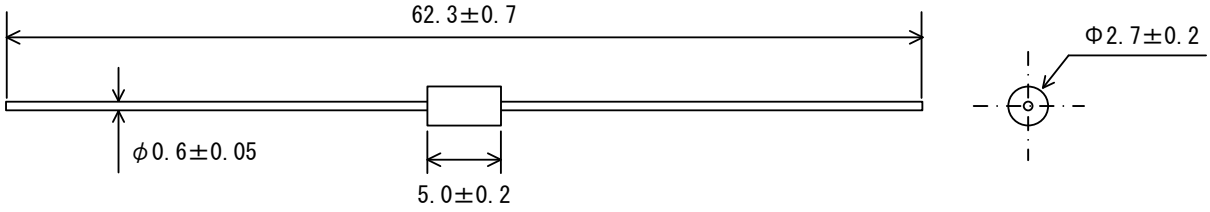


Figure 5. Typical Characteristics: I_R vs. V_R

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

Physical Dimensions

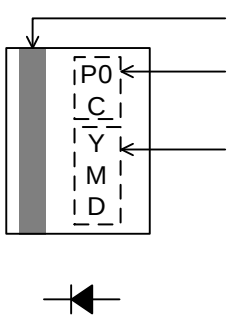
● **Axial (φ2.7 × 5.0L / φ0.6)**



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

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

Specific Device Code	Part Number
P0C	EP01C

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