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$V_{RM} = 800\text{ V}$, $I_{F(AV)} = 1.0\text{ A}$
General-Purpose Rectifier Diode
EM1B

Description

The EM1B is an 800 V, 1.0 A general-purpose rectifier diode with low loss characteristics. This rectifier diode is for a commercial power supply.

Features

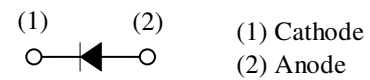
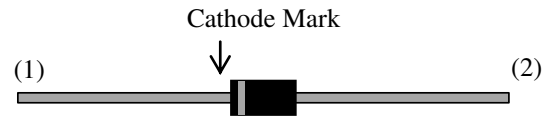
- V_{RM} ----- 800 V
- $I_{F(AV)}$ ----- 1.0 A
- V_F ($I_F = 1.0\text{ A}$)----- 0.90 V typ.
- Bare Leads: Pb-free (RoHS Compliant)

Applications

- Rectification Circuit
- Reverse Protection Circuit

Package

Axial ($\phi 2.7 \times 5.0L / \phi 0.78$)



Not to scale

EM1B

Absolute Maximum Ratings

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

| Parameter | Symbol | Rating | Unit | Conditions |
|---------------------------------|-------------|------------|------------------|--|
| Peak Repetitive Reverse Voltage | V_{RSM} | 850 | V | |
| Repetitive Reverse Voltage | V_{RM} | 800 | V | |
| Average Forward Current | $I_{F(AV)}$ | 1.0 | A | See Figure 2 and Figure 3 |
| Surge Forward Current | I_{FSM} | 35 | A | Half cycle sine wave, positive side, 10 ms, 1 shot |
| I^2t Limiting Value | I^2t | 6.12 | 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 | $I_F = 1.0\text{ A}$ | — | 0.90 | 1.05 | V |
| Reverse Leakage Current | I_R | $V_R = V_{RM}$ | — | — | 20 | μA |
| Reverse Leakage Current Under High Temperature | $H \cdot I_R$ | $V_R = V_{RM}, T_J = 150\text{ }^\circ\text{C}$ | — | — | 200 | μA |
| Thermal Resistance ⁽¹⁾ | $R_{th(J-L)}$ | See Figure 1 | — | — | 17 | $^\circ\text{C/W}$ |

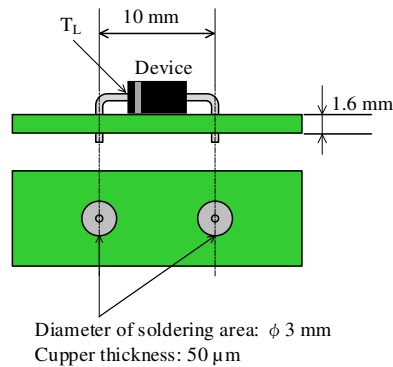


Figure 1 Lead Temperature Measurement Conditions

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

Rating and Characteristic Curves

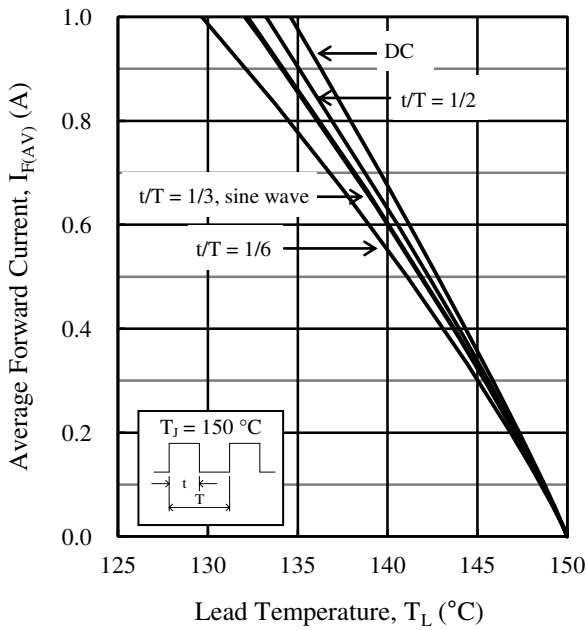


Figure 2. T_L vs. $I_{F(AV)}$ Typical Characteristics ($V_R = 0$ V)

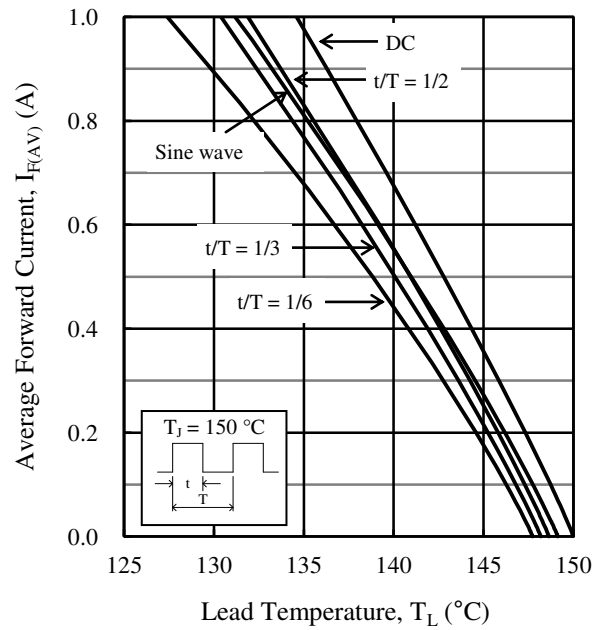


Figure 3. T_L vs. $I_{F(AV)}$ Typical Characteristics ($V_R = 800$ V)

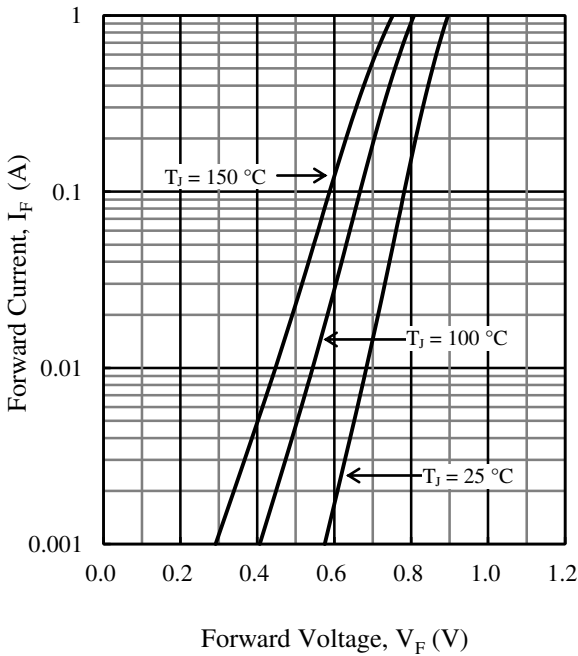


Figure 4. V_F vs. I_F Typical Characteristics

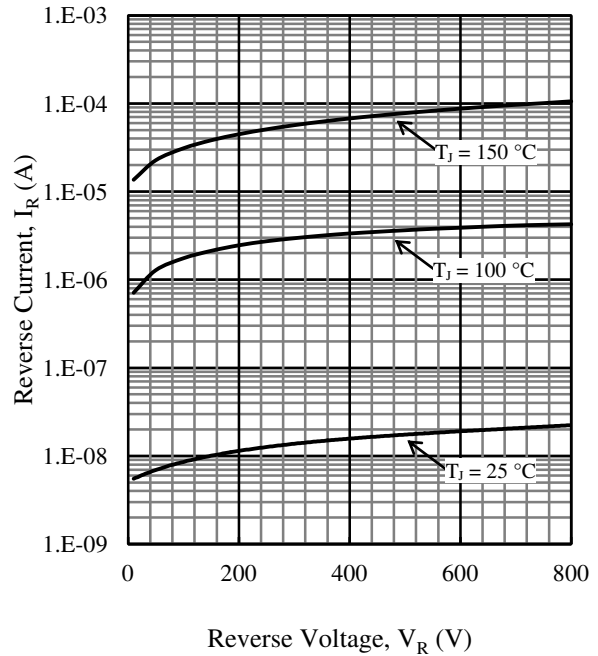
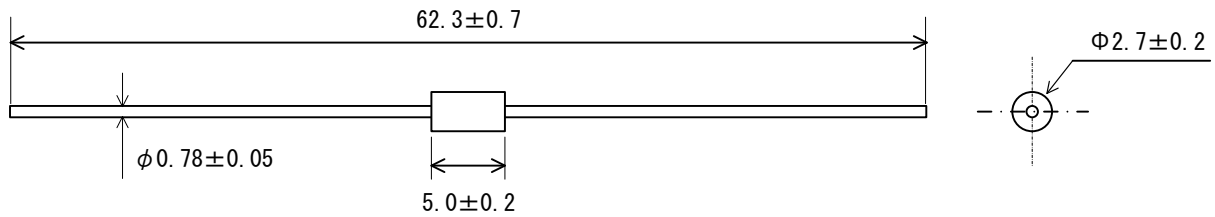


Figure 5. V_R vs. I_R Typical Characteristics

EM1B

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

Marking Diagram

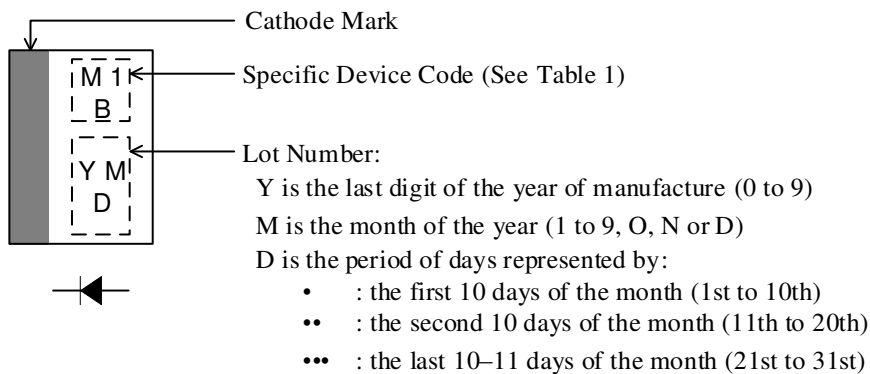


Table 1. Specific Device Code

| Specific Device Code | Part Number |
|----------------------|-------------|
| M1B | EM1B |

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