

$V_{RM} = 600\text{ V}$, $I_{F(AV)} = 1.0\text{ A}$
General-Purpose Rectifier Diode
EM01A

Description

The EM01A is a 600 V, 1.0 A general-purpose rectifier diode with low loss characteristics. This rectifier diode is for a commercial power supply.

Features

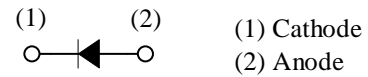
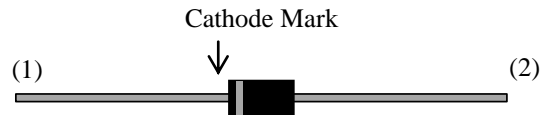
- V_{RM} ----- 600 V
- $I_{F(AV)}$ ----- 1.0 A
- V_F ($I_F = 1.0\text{ A}$)----- 0.90 V typ.
- Bare Leads: Pb-free (RoHS Compliant)

Applications

- Rectification Circuit
- Reverse Protection Circuit

Package

Axial ($\phi 2.7 \times 5.0\text{L} / \phi 0.6$)



Not to scale
Not to scale

Absolute Maximum Ratings

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

Parameter	Symbol	Conditions	Rating	Unit
Peak Repetitive Reverse Voltage	V_{RSM}		650	V
Repetitive Reverse Voltage	V_{RM}		600	V
Average Forward Current	$I_{\text{F(AV)}}$	See Figure 2 and Figure 3	1.0	A
Surge Forward Current	I_{FSM}	Half cycle sine wave, positive side, 10 ms, 1 shot	45	A
I^2t Limiting Value	I^2t	$1\text{ ms} \leq t \leq 10\text{ ms}$	10	A^2s
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	0.97	V
Reverse Leakage Current	I_R	$V_R = V_{\text{RM}}$	—	—	10	μA
Reverse Leakage Current Under High Temperature	$H \cdot I_R$	$V_R = V_{\text{RM}}, T_J = 100\text{ }^{\circ}\text{C}$	—	—	50	μA
Thermal Resistance ⁽¹⁾	$R_{\text{th(J-L)}}$	See Figure 1	—	—	20	$^{\circ}\text{C/W}$

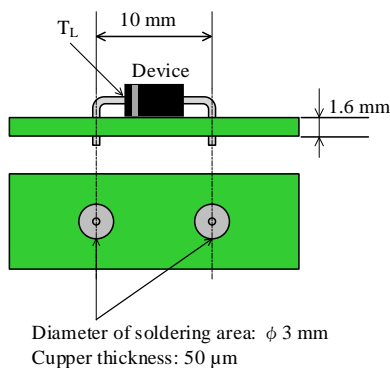


Figure 1 Lead Temperature Measurement Conditions

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

Rating and Characteristic Curves

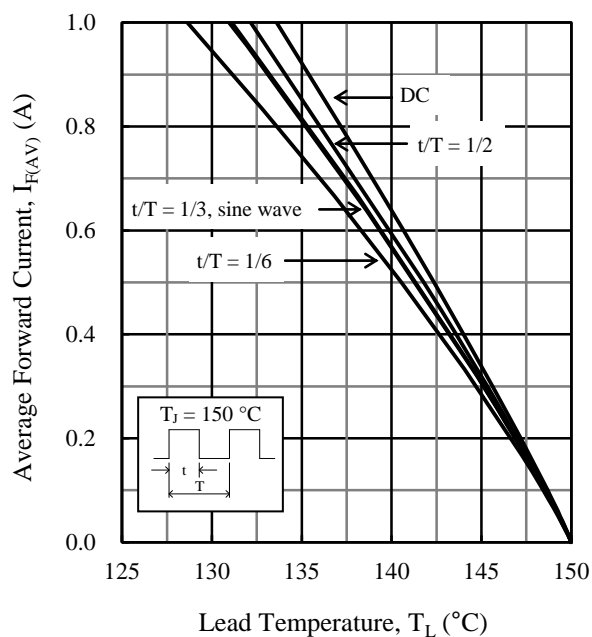


Figure 2. T_L vs. $I_{F(AV)}$ Typical Characteristics
($V_R = 0$ V)

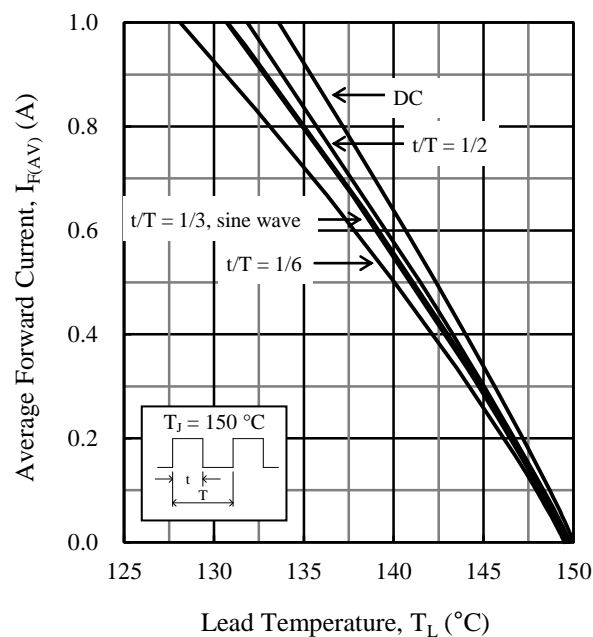


Figure 3. T_L vs. $I_{F(AV)}$ Typical Characteristics
($V_R = 600$ V)

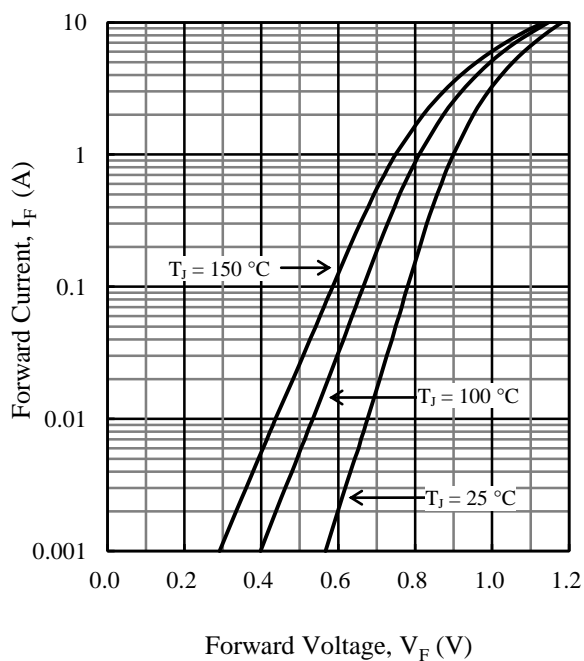


Figure 4. V_F vs. I_F Typical Characteristics

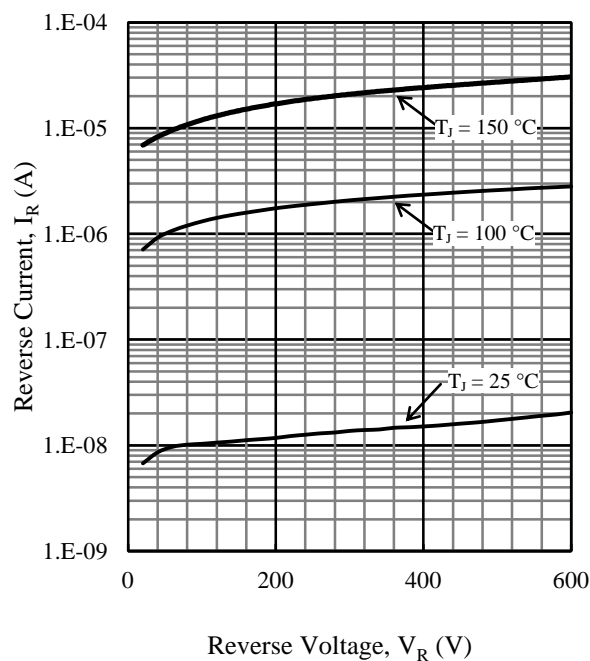
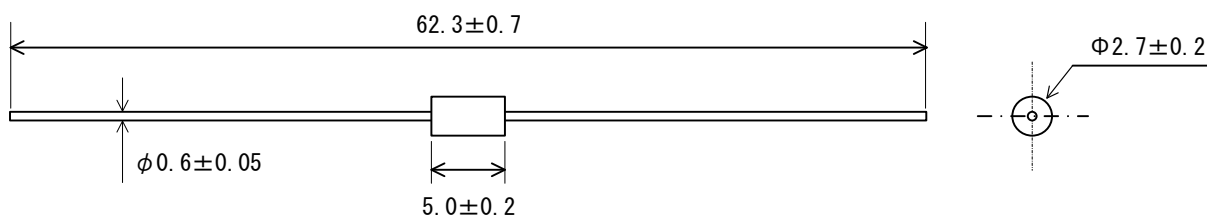


Figure 5. V_R vs. I_R Typical Characteristics

Physical Dimensions

• Axial ($\phi 2.7 \times 5.0L / \phi 0.6$)



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

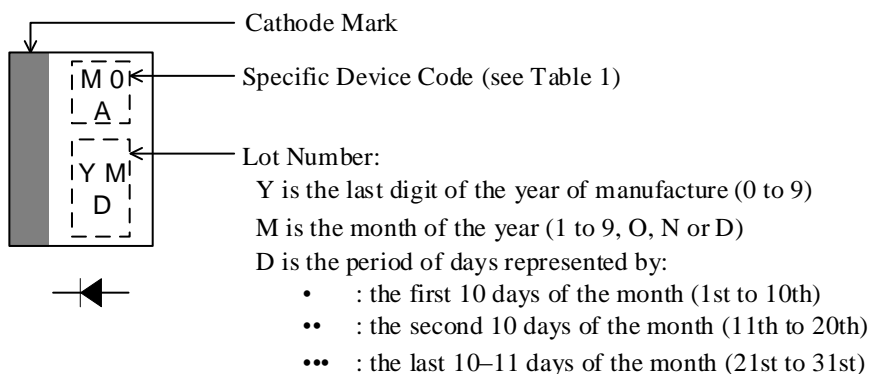


Table 1. Specific Device Code

Specific Device Code	Part Number
M0A	EM01A

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