

$V_{RM} = 40\text{ V}$, $I_{F(AV)} = 1.5\text{ A}$
Schottky Diode
EK14

Description

The EK14 is a 40 V, 1.5 A Schottky diode with allowing improvements in V_F and I_R characteristics.

These characteristic features contribute to improving power supply efficiency and to enabling high-frequency systems.

Features

- V_{RM} -----40 V
- $I_{F(AV)}$ -----1.5 A
- V_F ($I_F = 2.0\text{ A}$)-----0.49 V typ.
- Bare Leads: Pb-free (RoHS Compliant)

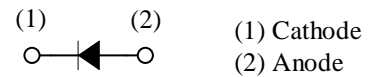
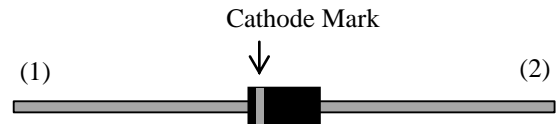
Applications

The high speed switching applications as follows:

- DC-DC Converter
- Adapter

Package

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



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}	45	V	
Repetitive Reverse Voltage	V_{RM}	40	V	
Average Forward Current	$I_{\text{F(AV)}}$	1.5	A	See Figure 2 and Figure 3
Surge Forward Current	I_{FSM}	40	A	Half cycle sine wave, positive side, 10 ms, 1 shot
I^2t Limiting Value	I^2t	8.0	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	$I_F = 1.5\text{ A}$	—	—	0.55	V
		$I_F = 2.0\text{ A}$	—	0.49	—	
Reverse Leakage Current	I_R	$V_R = V_{\text{RM}}$	—	—	5	mA
Reverse Leakage Current Under High Temperature	$H \cdot I_R$	$V_R = V_{\text{RM}}, T_J = 150\text{ }^{\circ}\text{C}$	—	—	50	mA
Thermal Resistance ⁽¹⁾	$R_{\text{th(J-L)}}$	See Figure 1	—	—	17	$^{\circ}\text{C/W}$

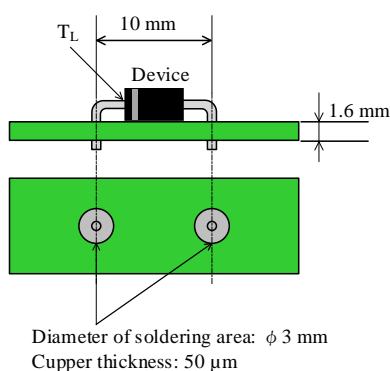


Figure 1 Lead Temperature Measurement Point

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

Rating and Characteristic Curves

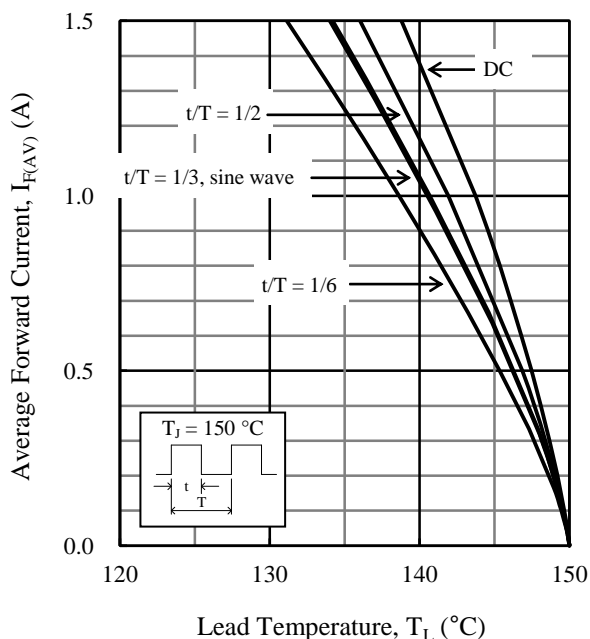


Figure 2. $I_{F(AV)}$ vs. T_L Typical Characteristics⁽²⁾
($V_R = 0$ V)

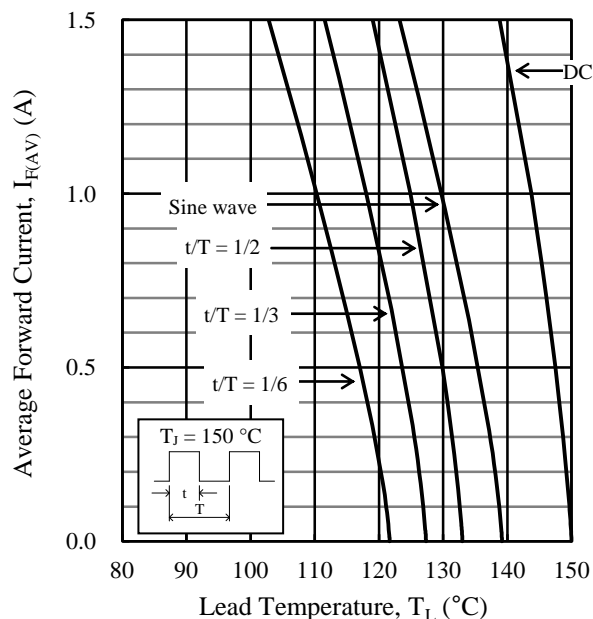


Figure 3. $I_{F(AV)}$ vs. T_L Typical Characteristics⁽²⁾
($V_R = 40$ V)

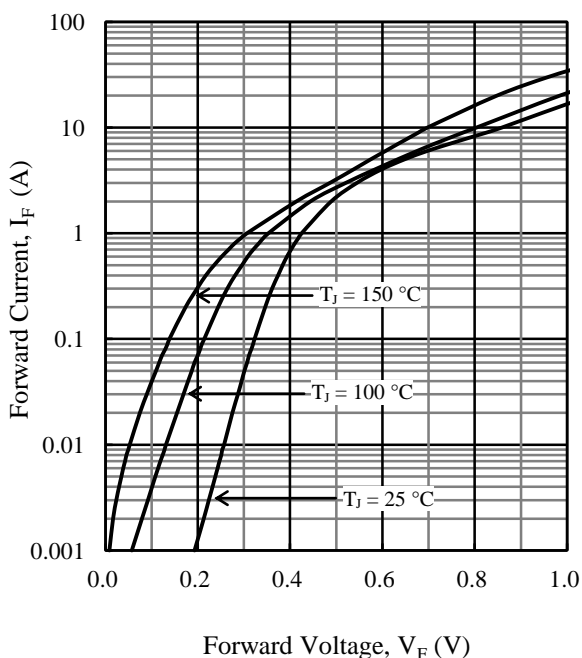


Figure 4. V_F vs. I_F Typical Characteristics

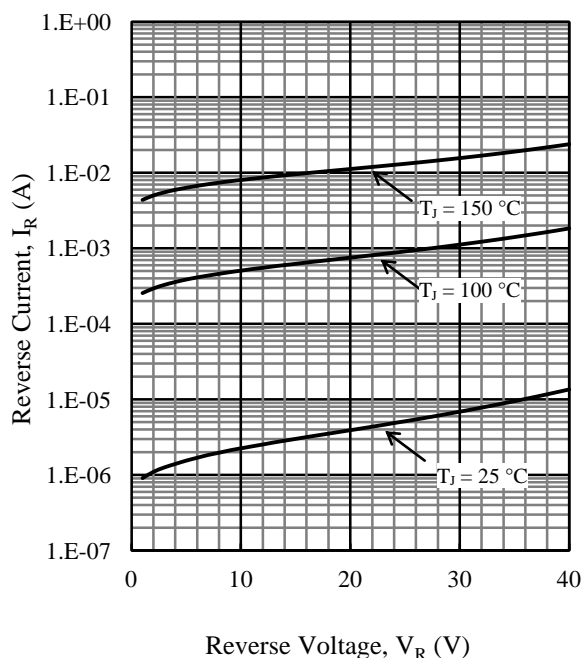
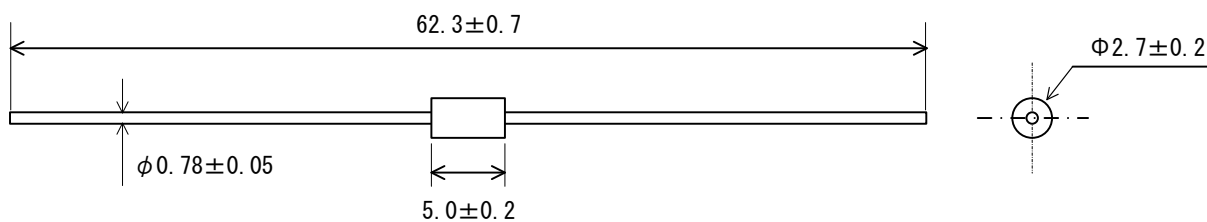


Figure 5. V_R vs. I_R Typical Characteristics

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

Physical Dimensions

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



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

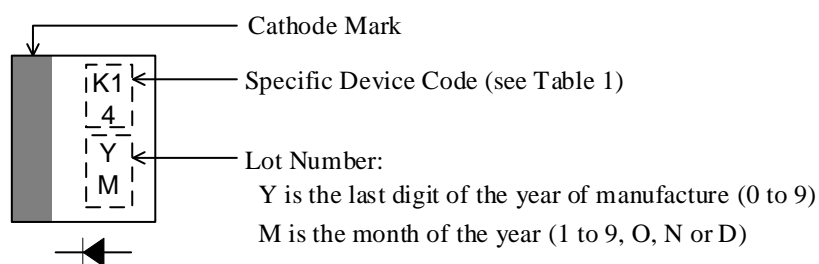


Table 1. Specific Device Code

Specific Device Code	Part Number
K14	EK14

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