

Description

The AK04 is a 40 V, 1.0 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

- Bare Leads: Pb-free (RoHS Compliant)

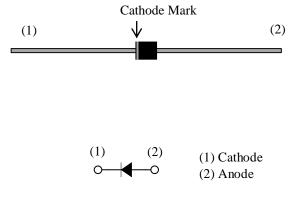
Applications

The high speed switching applications as follows:

- DC-DC Converter
- Adapter

Package

Axial ($\varphi 2.4 \times 2.9L / \varphi 0.57$)



Absolute Maximum Ratings

Unless otherwise specified, $T_A = 25$ °C.

Parameter	Symbol	Rating	Unit	Conditions
Peak Repetitive Reverse Voltage	V _{RSM}	40	V	
Repetitive Reverse Voltage	V _{RM}	40	V	
Average Forward Current	I _{F(AV)}	1.0	А	See Figure 2 and Figure 3
Surge Forward Current	I _{FSM}	25	А	Half cycle sine wave, positive side, 10 ms, 1 shot
I ² t Limiting Value	I ² t	3.125	A ² s	$1 \text{ ms} \le t \le 10 \text{ms}$
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.	Тур.	Max.	Unit
Forward Voltage Drop	$V_{\rm F}$	$I_{\rm F} = 1.0 \ {\rm A}$		0.49	0.55	V
Reverse Leakage Current	I _R	$V_R = V_{RM}$		_	5	mA
Reverse Leakage Current Under High Temperature	$H{\cdot}I_{R}$	$V_{R} = V_{RM}, T_{J} = 150 \ ^{\circ}C$	_		35	mA
Thermal Resistance ⁽¹⁾	R _{th(J-L)}	See Figure 1			22	°C/W

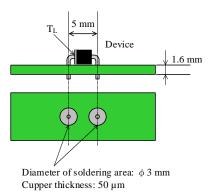


Figure 1 Lead Temperature Measurement Conditions

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

Rating and Characteristic Curves

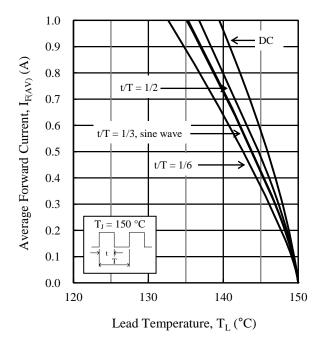


Figure 2. $I_{F(AV)}$ vs. T_L Typical Characteristics⁽²⁾ ($V_R = 0$ V)

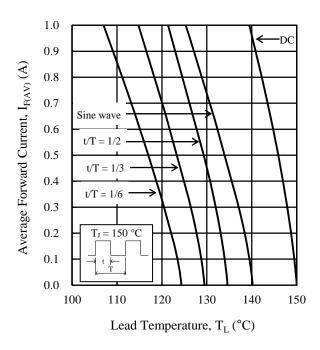
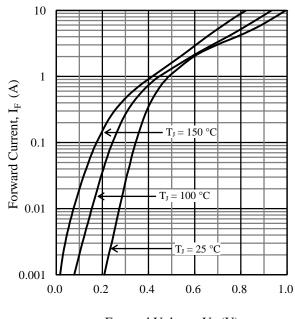
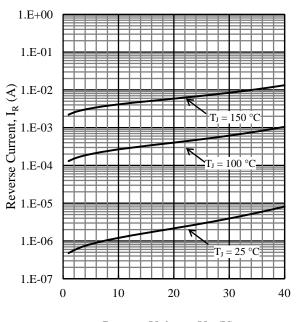


Figure 3. $I_{F(AV)}$ vs. T_L Typical Characteristics⁽²⁾ ($V_R = 40$ V)



Forward Voltage, V_F(V)

Figure 4. V_F vs. I_F Typical Characteristics



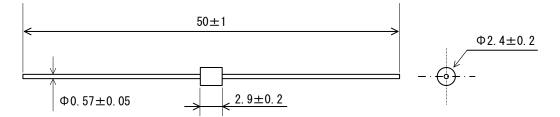
Reverse Voltage, $V_R(V)$

Figure 5. V_R vs. I_R Typical Characteristics

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

Physical Dimensions

• Axial ($\phi 2.4 \times 2.9L / \phi 0.57$)



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: $260 \pm 5 \text{ °C} / 10 \pm 1 \text{ s}, 2 \text{ times}$
- 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

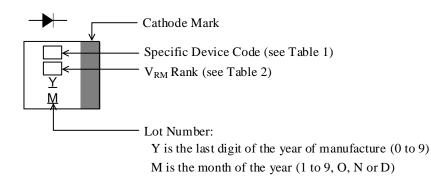


Table 1.	Specific Device Code
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Specific Device Code	Part Number
К	AK04

Table 2. V_{RM} Rank

Rank	V _{RM}
4	40 V

Important Notes

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