

Surface Mount Schottky Barrier Diode

Features

- AEC-Q101 Qualified
- Low forward voltage
- High conductance
- Halogen and Antimony Free(HAF), RoHS compliant

Application

- Power Conversion Circuit
- Reverse Battery Protection
- Gate Driving Circuit

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	40	V
Reverse Voltage	V_R	40	V
Average Rectified Forward Current	$I_{F(AV)}$	0.5	A
Peak Forward Surge Current 8.3 ms Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	20	A
Operating Junction Temperature Range	T_j	- 65 to + 150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 150	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Value	Unit
Typical Thermal Resistance from Junction to Lead ¹⁾	$R_{\theta JL}$	118	$^\circ\text{C}/\text{W}$
Typical Thermal Resistance from Junction to Ambient ¹⁾	$R_{\theta JA}$	206	$^\circ\text{C}/\text{W}$

¹⁾ Device mounted on FR-4 substrate PC board, 2oz copper, with 1-inch square copper plate.

Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 100 \mu\text{A}$	$V_{(BR)R}$	40	-	V
Forward Voltage at $I_F = 0.5 \text{ A}$ at $I_F = 1 \text{ A}$ at $I_F = 0.5 \text{ A}$, $T_J = 100^\circ\text{C}$ at $I_F = 1 \text{ A}$, $T_J = 100^\circ\text{C}$	V_F	- - - -	0.51 0.62 0.46 0.61	V
Reverse Current at $V_R = 20 \text{ V}$ at $V_R = 40 \text{ V}$ at $V_R = 20 \text{ V}$, $T_J = 100^\circ\text{C}$ at $V_R = 40 \text{ V}$, $T_J = 100^\circ\text{C}$	I_R	- - - -	10 20 5 13	μA μA mA mA

Electrical Characteristic Curves

Fig 1. Reverse Characteristics

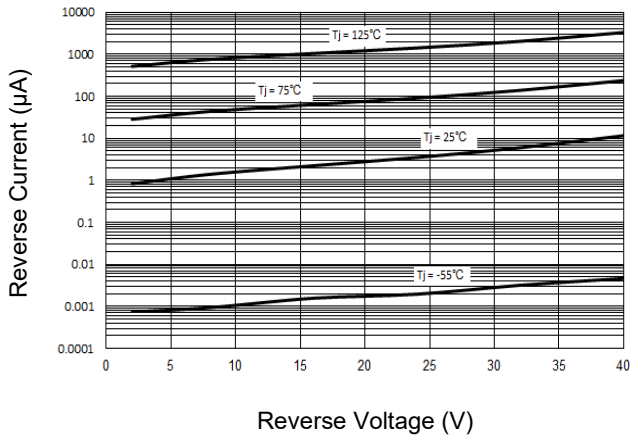


Fig 2. Forward Characteristics

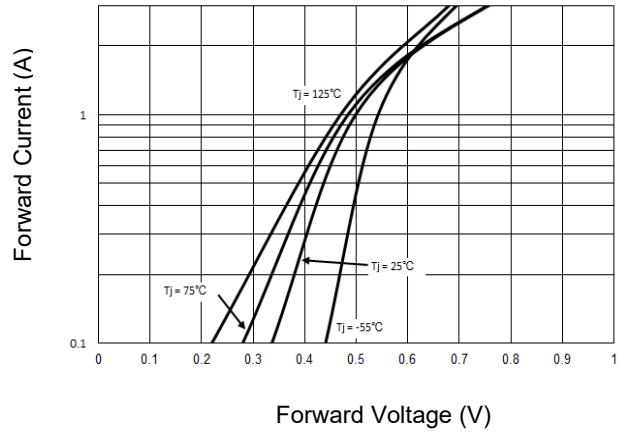


Fig 3. Junction Capacitance

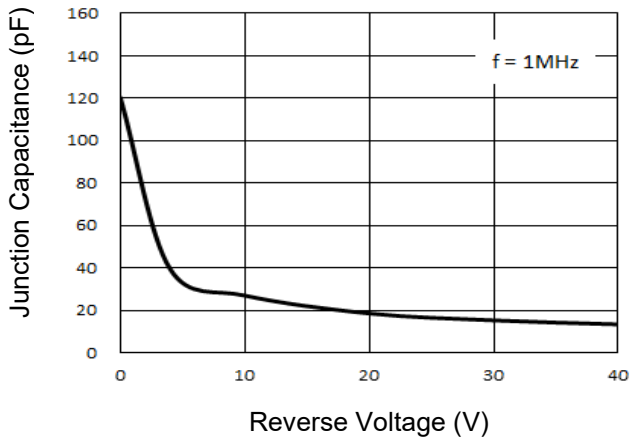
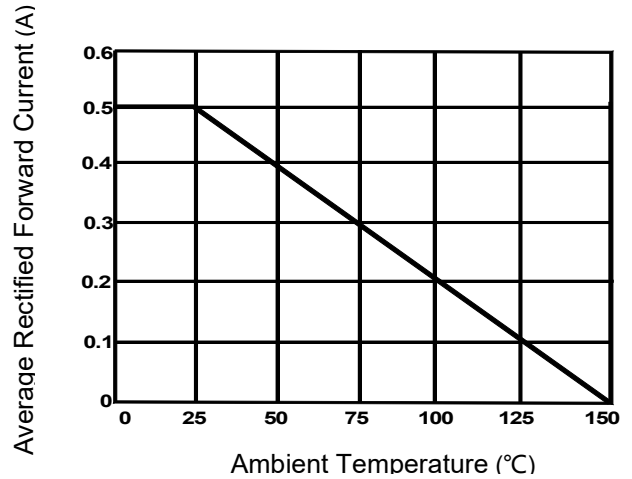
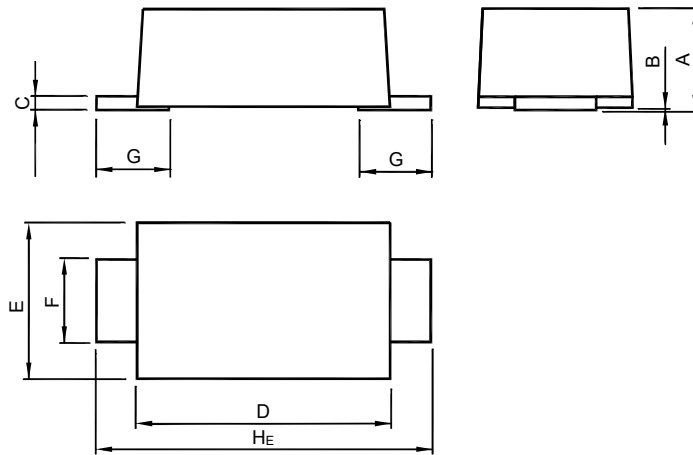
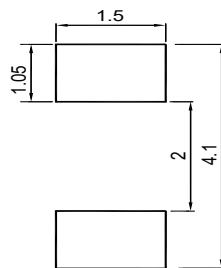


Fig 4. Average Rectified Current Derating Curve



PACKAGE OUTLINE
Plastic surface mounted package; 2 leads
SOD-123FL


UNIT	A	B	C	D	E	F	G	H _E
mm	1.08	0.1	0.2	2.9	1.9	1.1	0.85	3.9
	0.88	0	0.1	2.7	1.7	0.8	0.45	3.5

Recommended Soldering Footprint

Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOD-123FL	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

- " SQ " = Part No.
 - " III " = Cathode line
 - " • " = HAF (Halogen and Antimony Free)
- Font type: Arial

