

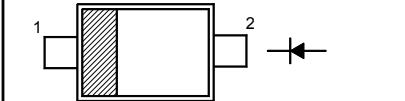
MBR0540-CH

Surface Mount Schottky Barrier Diode

Features

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

PIN	DESCRIPTION
1	Cathode
2	Anode



Top View
Simplified outline SOD-123 and symbol

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	$I_{F(AV)}$	500	mA
Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	5.5	A
Operating Junction Temperature Range	T_j	- 65 to + 150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 150	$^\circ\text{C}$

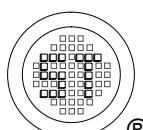
Thermal Characteristics

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

¹⁾ Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

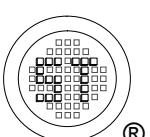
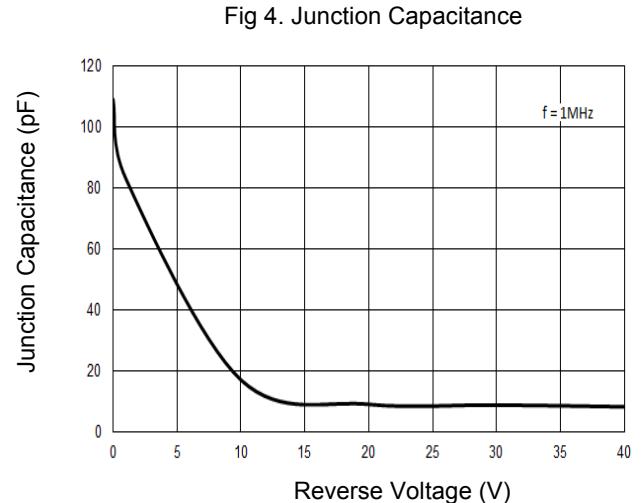
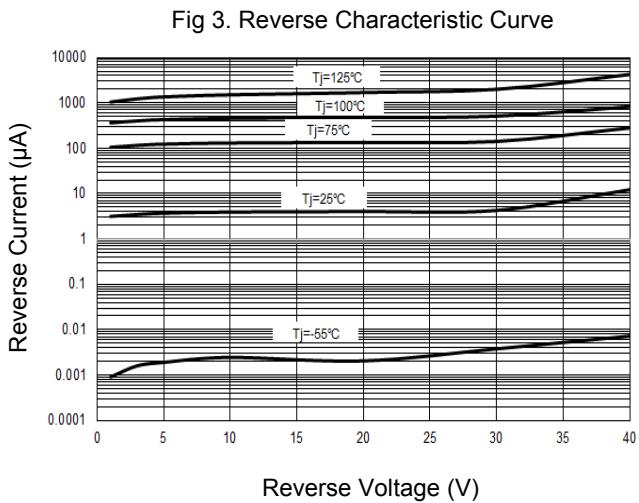
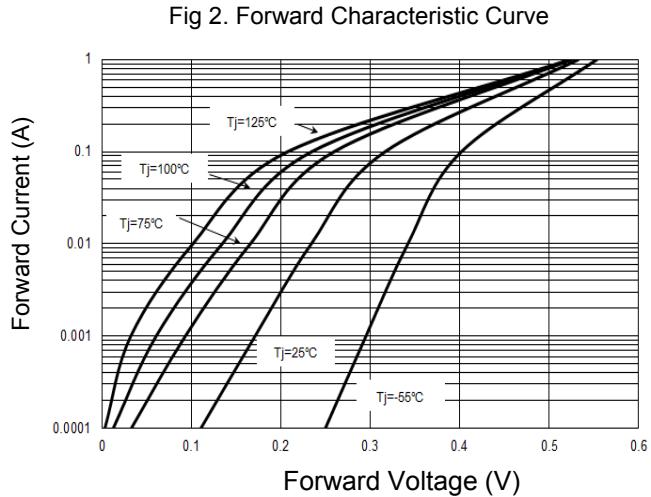
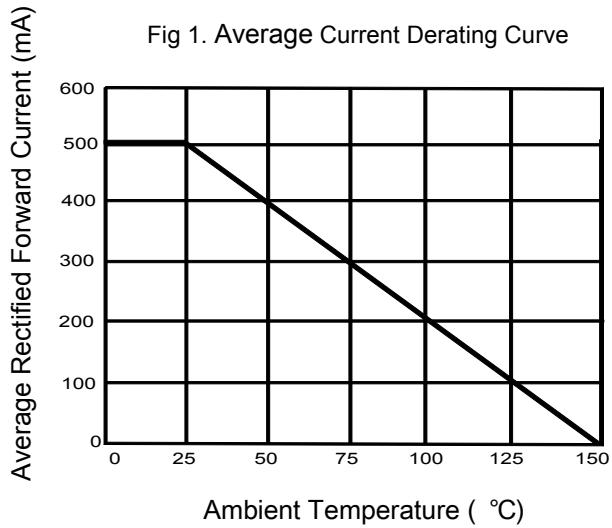
Characteristics at $T_a = 25^\circ\text{C}$

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



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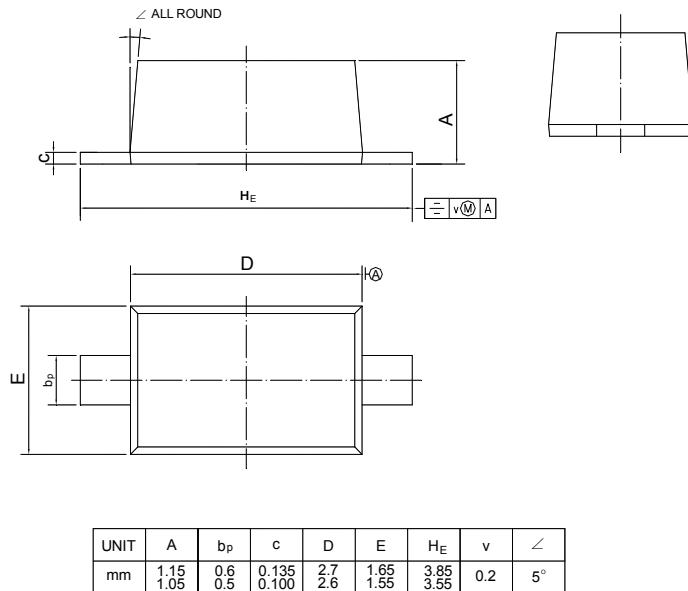
Electrical Characteristic Curves



PACKAGE OUTLINE

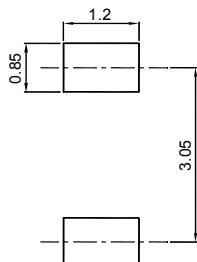
Plastic surface mounted package; 2 leads

SOD-123



UNIT	A	b _p	c	D	E	H _E	v	∠
mm	1.15 1.05	0.6 0.5	0.135 0.100	2.7 2.6	1.65 1.55	3.85 3.55	0.2	5°

Recommended Soldering Footprint



Packing information

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

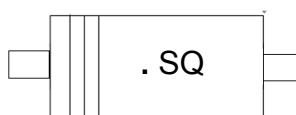
Marking information

" SQ " = Part No.

" III " = Cathode line

" • " = HAF (Halogen and Antimony Free)

Font type: Arial



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