

350mA, Low VF Schottky Barrier Diode

FEATURES

- Low power loss, high current capability, low VF
- Surface mount device type
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free

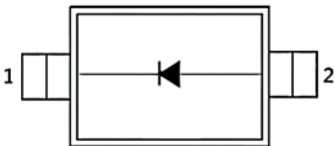
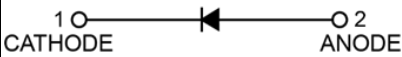
APPLICATIONS

- Low voltage rectifications
- High-efficiency DC-DC conversions
- Switch mode power supplies
- Inverse polarity protections

MECHANICAL DATA

- Case: SOD-123
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: Indicated by cathode band
- Weight: 0.01g (approximately)



PACKAGE: SOD-123	PIN CONFIGURATION	CIRCUIT DIAGRAM
		

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETER		SYMBOL	VALUE	UNIT
Power dissipation ⁽¹⁾		P _D	400	mW
Repetitive peak reverse voltage	SD103AW	V _{RRM}	40	V
	SD103BW		30	
	SD103CW		20	
Reverse voltage	SD103AW	V _R	28	V
	SD103BW		21	
	SD103CW		14	
Mean Forward Current @ T _L = 100°C		I _O	350	mA
Repetitive peak forward surge current @ t ≤ 1.0 s		I _{FRM}	1.5	A

Junction temperature range	T_J	-55 to +125	°C
Storage temperature range	T_{STG}	-65 to +125	°C

Note:

- Units mounted on PCB (10mm x 5mm Cu pad test board)

THERMAL PERFORMANCE

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Junction-to-ambient thermal resistance ⁽¹⁾	$R_{\theta JA}$	-	-	300	°C/W

Thermal Performance Note:

- Units mounted on PCB (10mm x 5mm Cu pad test board)

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS		SYMBOL	MIN	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	I _F = 20mA		V _F	-	-	0.37	V
	I _F = 200mA			-	-	0.60	V
Reverse voltage ⁽²⁾	I _R = 10μA	SD103AW	V _{BR}	40	-	-	V
		SD103BW		30	-	-	
		SD103CW		20	-	-	
Reverse current ⁽²⁾	V _R = 30V	SD103AW	I _R	-	-	5	μA
	V _R = 20V	SD103BW					
	V _R = 10V	SD103CW					
Junction capacitance	f = 1MHz, V _R = 0V		C _J	-	50	-	pF

Notes:

- Pulse test with $PW = 0.3\text{ms}$
- Pulse test with $PW = 30\text{ms}$

ORDERING INFORMATION

ORDERING CODE	PACKAGE	PACKING	DEVICE MARKING
SD103AW RHG	SOD-123	3K / 7" Reel	S4
SD103BW RHG	SOD-123	3K / 7" Reel	S5
SD103CW RHG	SOD-123	3K / 7" Reel	S6

CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.1 Power Dissipation Curve

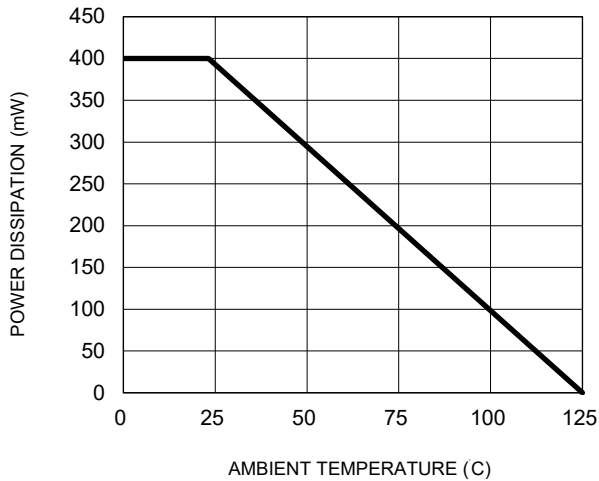


Fig.2 Typical Junction Capacitance

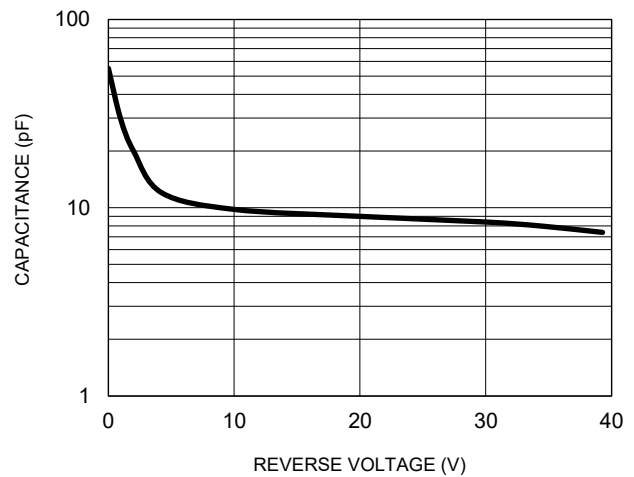


Fig.3 Typical Reverse Characteristics

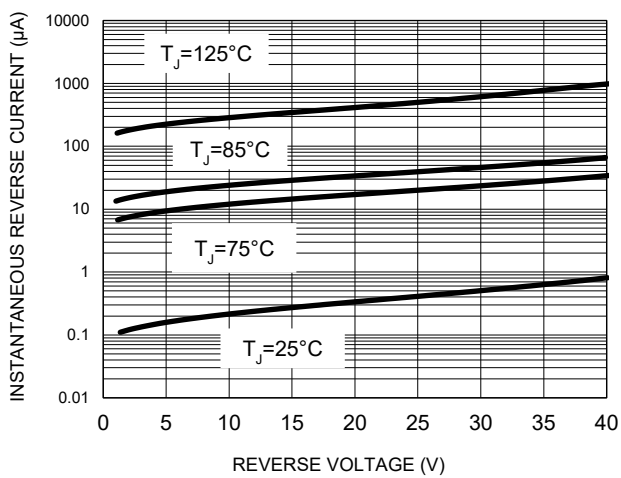


Fig.4 Typical Forward Characteristics

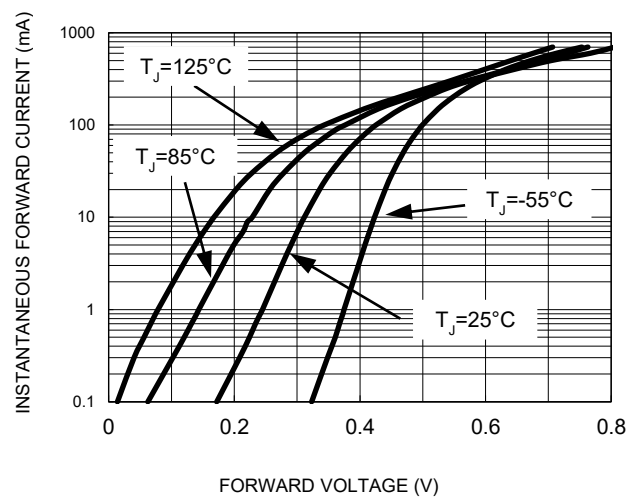
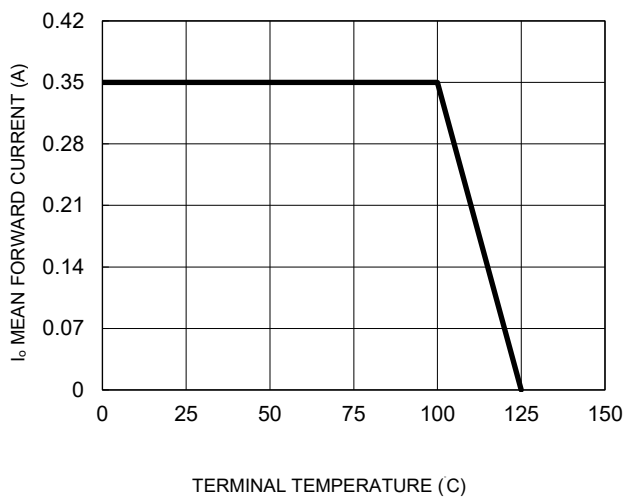
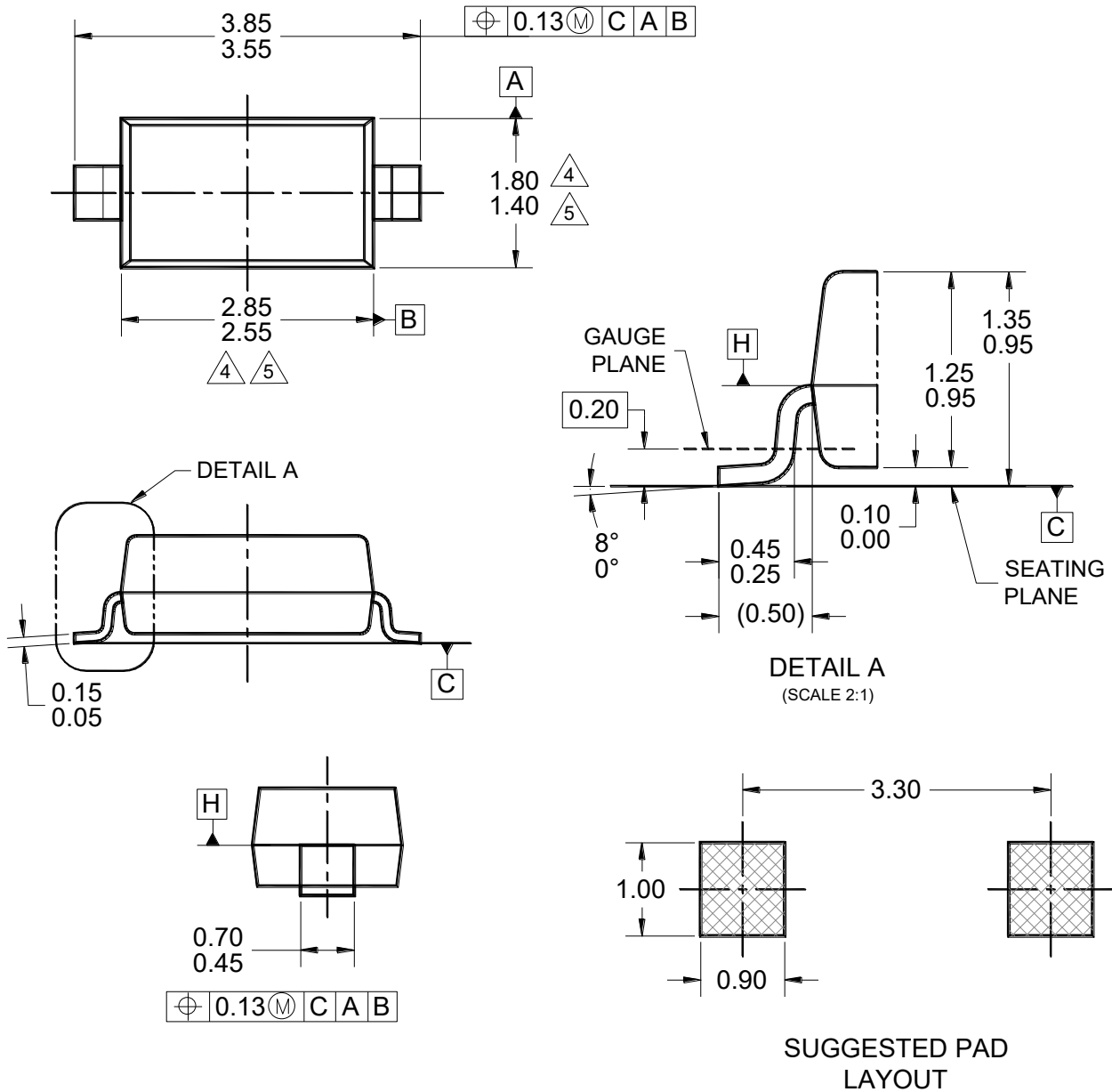


Fig.5 Forward Current Derating Curve



PACKAGE OUTLINE DIMENSION

SOD-123



NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
3. PACKAGE OUTLINE REFERENCE: JEDEC DO-215, VARIATION AD, ISSUE D.
4. MOLDED PLASTIC BODY DIMENSIONS DO NOT INCLUDE MOLD FLASH.
5. MOLDED PLASTIC BODY LATERAL DIMENSIONS TO BE DETERMINED AT DATUM PLANE H.
6. DWG NO. REF: HQ2SD07-SOD123-046 REV A.

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