

250mA, 100V Schottky Barrier Diode

FEATURES

- High breakdown voltage
- Low forward voltage
- Surface mount device type
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	250	mA
V_{RRM}	100	V
V_F at $I_F = 10\text{mA}$	0.45	V
$T_{J\text{ MAX}}$	125	°C

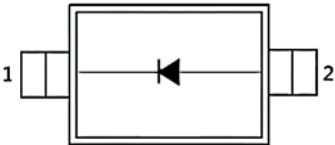
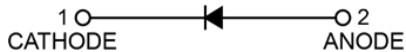
APPLICATIONS

- High-speed switching
- Voltage clamping
- Reverse polarity protection



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: 11.00mg (approximately)

PACKAGE: SOD-123	PIN CONFIGURATION	CIRCUIT DIAGRAM
		

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

PARAMETER	SYMBOL	VALUE	UNIT
Power dissipation	P_D	200	mW
Non-repetitive peak reverse voltage	V_{RM}	100	V
Repetitive peak reverse voltage	V_{RRM}	100	V
RMS reverse voltage	$V_{R(RMS)}$	70	V
Forward current	I_F	250	mA
Junction temperature range	T_J	-55 to +125	°C
Storage temperature range	T_{STG}	-55 to +125	°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	331	°C/W

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⁾	$I_F = 0.1\text{mA}, T_J = 25^\circ\text{C}$	V_F	-	-	0.25	V
	$I_F = 10\text{mA}, T_J = 25^\circ\text{C}$		-	0.33	0.45	V
	$I_F = 250\text{mA}, T_J = 25^\circ\text{C}$		-	0.78	1.00	V
Reverse voltage ⁽²⁾	$I_R = 100\mu\text{A}, T_J = 25^\circ\text{C}$	V_R	100	-	-	V
Reverse current ⁽²⁾	$V_R = 10\text{V}, T_J = 25^\circ\text{C}$	I_R	-	-	0.8	μA
	$V_R = 50\text{V}, T_J = 25^\circ\text{C}$		-	-	2.0	μA
	$V_R = 75\text{V}, T_J = 25^\circ\text{C}$		-	-	5.0	μA
Junction capacitance	$f = 1\text{MHz}, V_R = 0\text{V}$	C_J	-	14.5	20	pF

Notes:

1. Pulse test with $PW = 0.3\text{ms}$
2. Pulse test with $PW = 30\text{ms}$

ORDERING INFORMATION

ORDERING CODE	PACKAGE	PACKING
BAT46GW RHG	SOD-123	3K / 7" Reel

CHARACTERISTICS CURVES

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

Fig.1 Typical Forward Characteristics

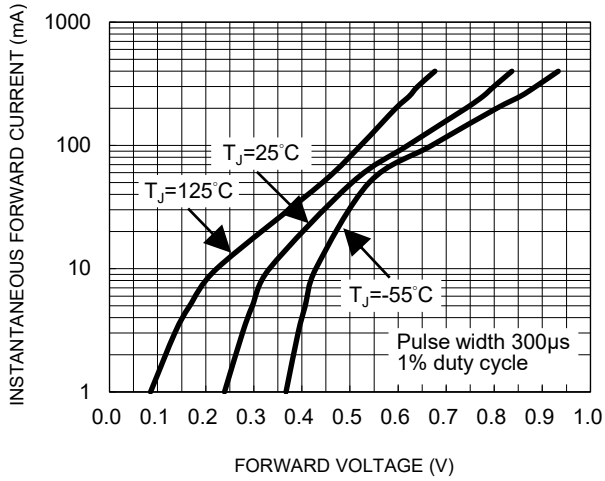


Fig.2 Typical Reverse Characteristics

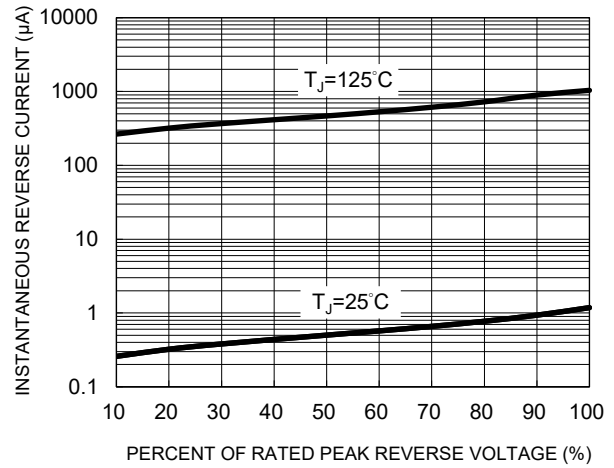


Fig.3 Typical Junction Capacitance

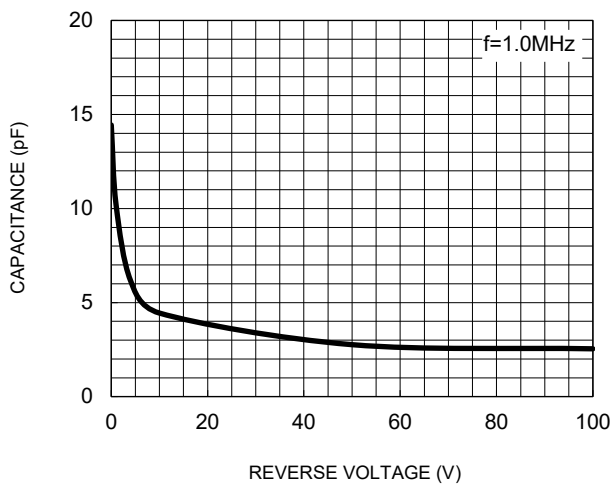
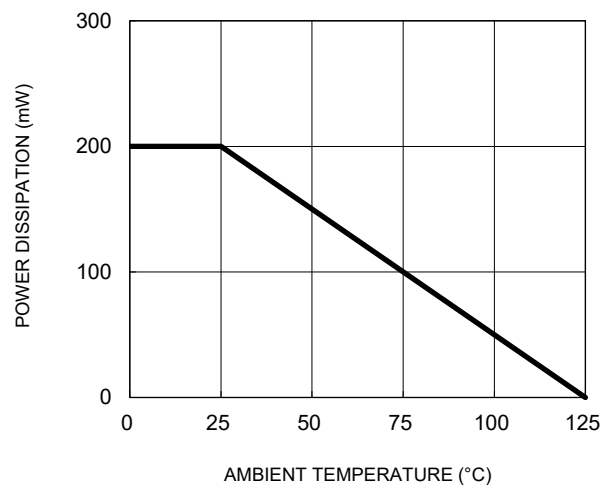
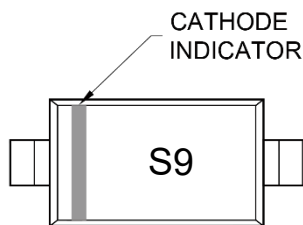
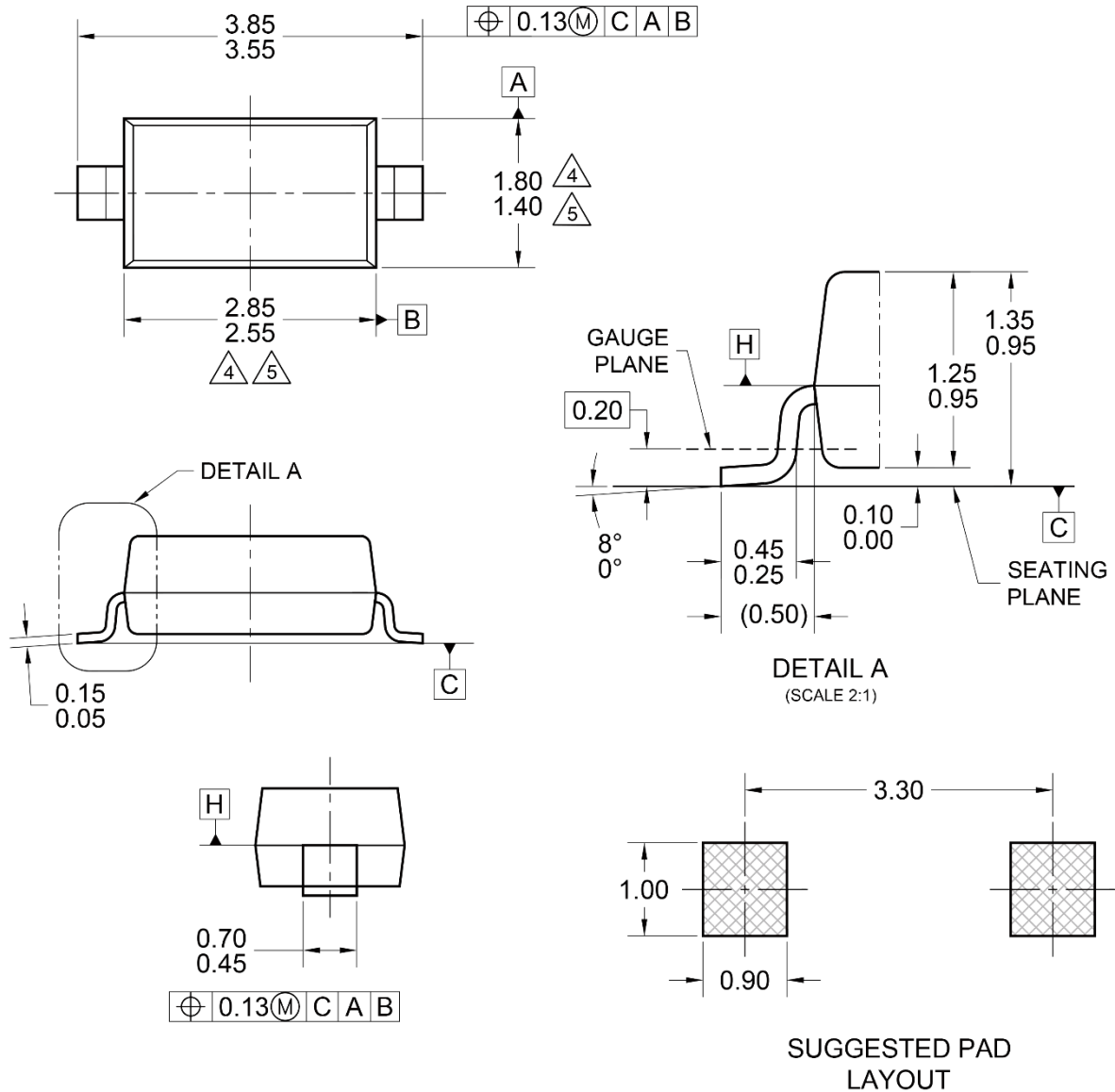


Fig.4 Power Derating Curve



PACKAGE OUTLINE DIMENSION

SOD-123



MARKING DIAGRAM

S9 = Device marking

NOTES: UNLESS OTHERWISE SPECIFIED

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

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