200mA, 30V Schottky Barrier Diode

FEATURES

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

APPLICATIONS

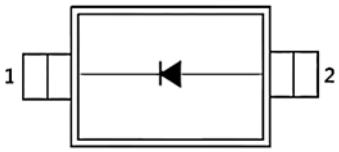
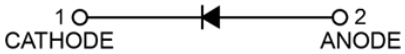
- For general purpose applications

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	200	mA
V_{RRM}	30	V
I_{FSM}	4	A
$T_{J\ MAX}$	125	°C
V_F at I_F=200mA	1	V

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: 10.00 mg (approximately)

Pb-Free RoHS COMPLIANT HALOGEN FREE

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	200	mW
Repetitive peak reverse voltage		V_{RRM}	30	V
Working peak reverse voltage		V_{RWM}		
DC blocking voltage		V_R		
RMS reverse voltage		$V_{R(RMS)}$	21	V
Forward current		I_F	200	mA
Repetitive peak forward current	t < 1.0s	I_{FM}	500	mA
Non-repetitive peak forward surge current	t < 1.0ms	I_{FSM}	4	A
Repetitive peak forward surge current		I_{FRM}	500	mA
Junction temperature		T_J	-55 to +125	°C
Storage temperature		T_{STG}	-55 to +125	°C

Note:

1. Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint

THERMAL PERFORMANCE					
PARAMETER	**SYMBOL**	**MIN**	**TYP**	**MAX**	**UNIT**
Junction-to-ambient thermal resistance(1)	$R_{\Theta JA}$	-	-	500	°C/W

Thermal Performance Note:

1. Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)							
PARAMETER	**CONDITIONS**		**SYMBOL**	**MIN**	**TYP**	**MAX**	**UNIT**
Forward voltage(1)	BAT42W	I_F = 10mA	V_F	-	-	0.40	V
		I_F = 50mA		-	-	0.65	
		I_F = 200mA		-	-	1.00	
	BAT43W	I_F = 2mA		-	-	0.33	
		I_F = 15mA		-	-	0.45	
		I_F = 200mA		-	-	1.00	
Reverse current(2)	V_R = 25V		I_R	-	-	500	nA
Junction capacitance	f = 1MHz, V_R = 1V		C_J	-	-	10	pF
Reverse recovery time	I_F = I_R = 10mA, I_{RR} = 1mA, R_L = 100Ω		t_{rr}	-	-	5	ns

Notes:

1. Pulse test with PW=0.3 ms
2. Pulse test with PW=30 ms

ORDERING INFORMATION			
ORDERING CODE	**PACKAGE**	**PACKING**	**DEVICE MARKING**
BAT42W RHG	SOD-123	3,000 / 7” Tape & Reel	S7
BAT43W RHG	SOD-123	3,000 / 7” Tape & Reel	S8

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Power Dissipation Curve

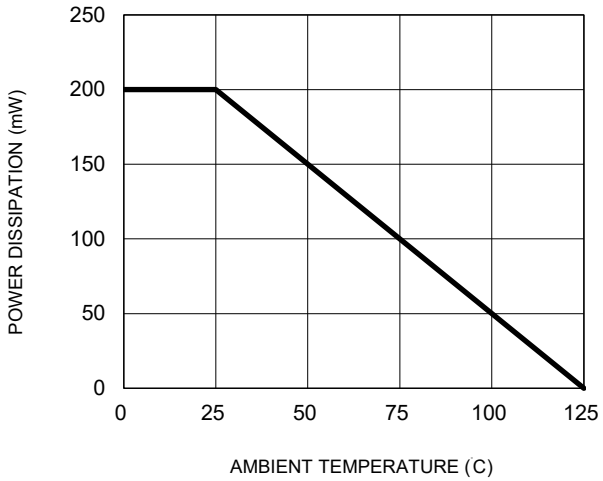


Fig.2 Typical Junction Capacitance

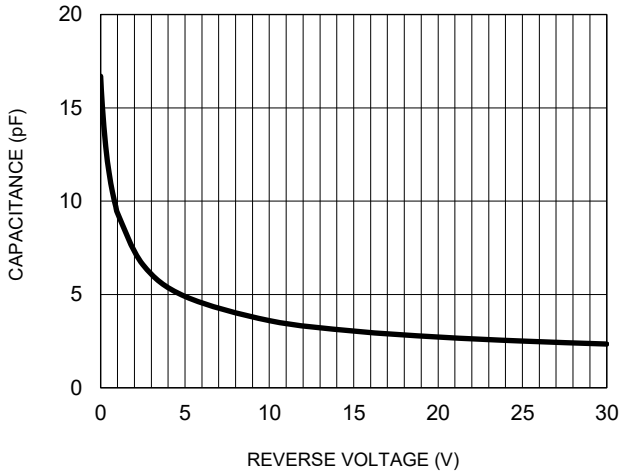


Fig.3 Typical Reverse Characteristics

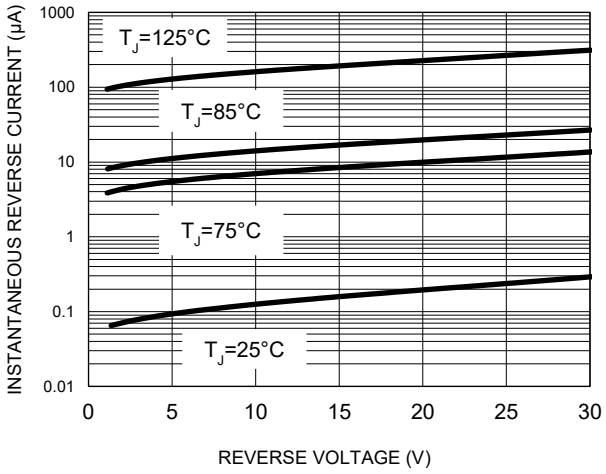
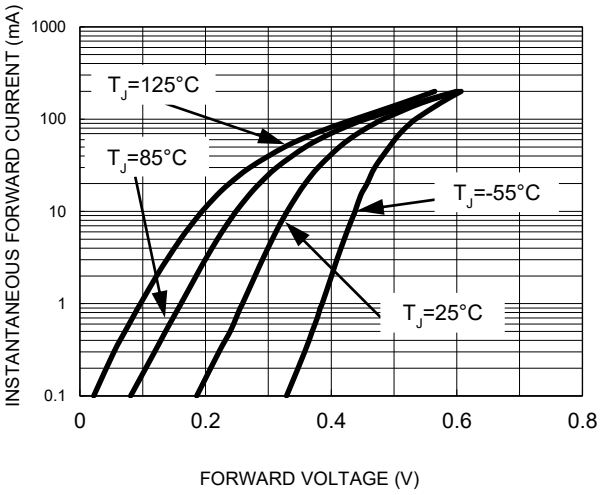
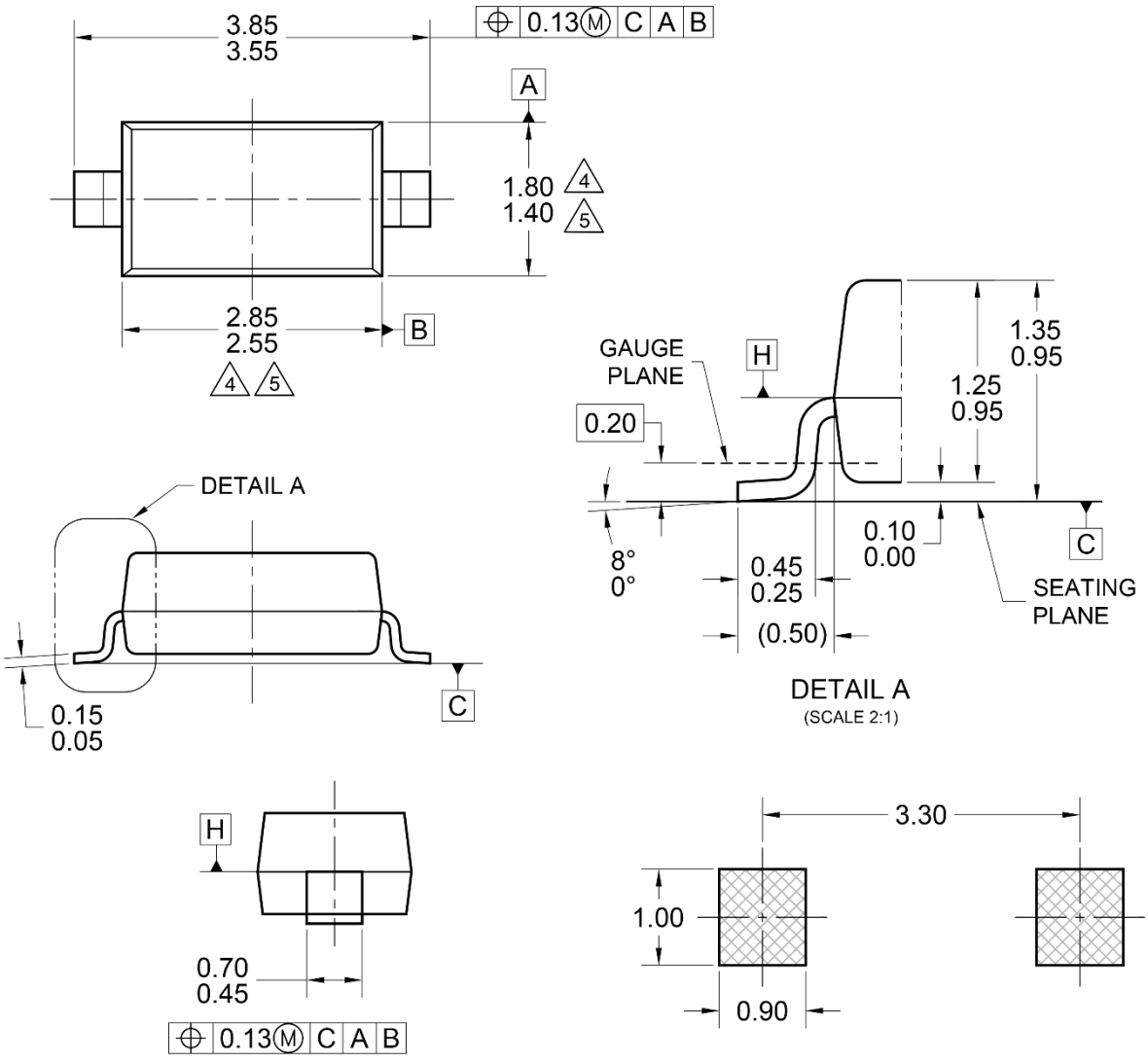


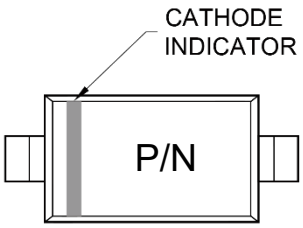
Fig.4 Typical Forward Characteristics



PACKAGE OUTLINE DIMENSION

SOD-123





MARKING DIAGRAM

P/N = Device marking

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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