200mA, 30V Schottky Barrier Diode

FEATURES

- Designed for mounting on small surface
- Low capacitance
- Low forward voltage drop
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant

APPLICATIONS

- Adapters
- For switching power supply
- Inverter

MECHANICAL DATA

- Case: SOD-323F
- 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

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	200	mA
V_{RRM}	30	V
I_{FSM}	4	A
V_F at I_F = 200mA	1	V
$T_{J\,MAX}$	125	°C
Package	SOD-323F	
Configuration	Single die	

Pb-Free RoHS COMPLIANT

SOD-323F

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)					
PARAMETER		**SYMBOL**	**BAT42WS**	**BAT43WS**	**UNIT**
Marking code on the device			B1	B2	
Repetitive peak reverse voltage		V_{RRM}	30		V
Maximum dc blocking voltage		V_R	30		V
Forward current		I_F	200		mA
Non-repetitive peak forward current	t = 10mS	I_{FSM}	2		A
Junction temperature range		T_J	-65 to +125		°C
Storage temperature range		T_{STG}	-65 to +125		°C

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER		CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Forward voltage[1]	BAT42WS	I_F = 10mA, T_J = 25°C	V_F	-	-	0.40	V
		I_F = 50mA, T_J = 25°C		-	-	0.65	V
		I_F = 200mA, T_J = 25°C		-	-	1.00	V
	BAT43WS	I_F = 2mA, T_J = 25°C		-	-	0.33	V
		I_F = 15mA, T_J = 25°C		-	-	0.45	V
		I_F = 200mA, T_J = 25°C		-	-	1.00	V
Reverse voltage		I_R = 100μA, T_J = 25°C	V_R	30	-	-	V
Reverse current @ rated V_R[2]		V_R = 25V T_J = 25°C	I_R	-	-	500	nA
Junction capacitance		1MHz, V_R = 1V	C_J	-	7	-	pF
Reverse recovery time		I_F = I_R = 10mA, R_L = 100Ω I_{rr} = 1mA	t_{rr}	-	5	-	ns

Notes:

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

ORDERING INFORMATION

ORDERING CODE[1][2]	PACKAGE	PACKING
BATxWS RR	SOD-323F	3,000 / 7" Tape & Reel
BATxWS RRG	SOD-323F	3,000 / 7" Tape & Reel
BATxWS R9	SOD-323F	10,000 / 13" Tape & Reel
BATxWS R9G	SOD-323F	10,000 / 13" Tape & Reel

Notes:

1. "x" is device code from "42"(BAT42WS) to "43"(BAT43WS)
2. "G" means green compound (halogen-free according to IEC 61249-2-21)

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

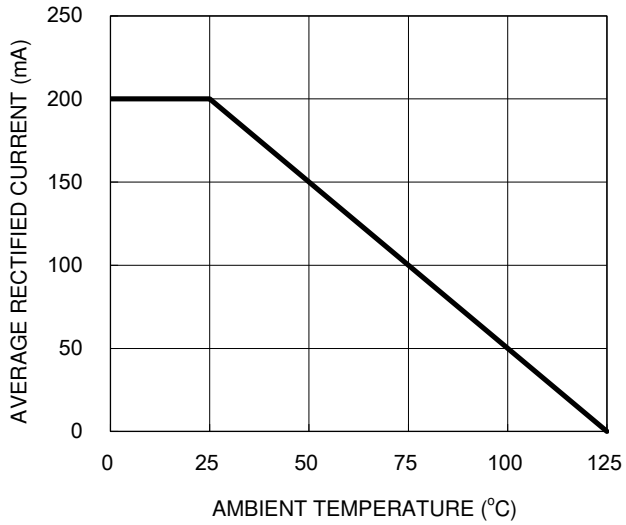


Fig.2 Typical Forward Characteristics

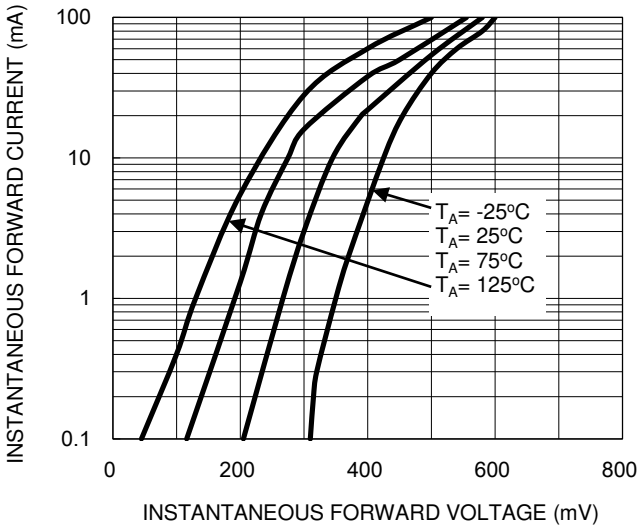


Fig.3 Typical Reverse Characteristics

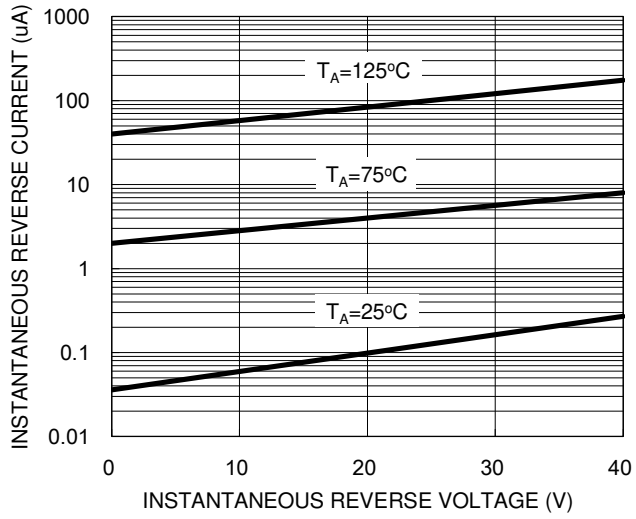
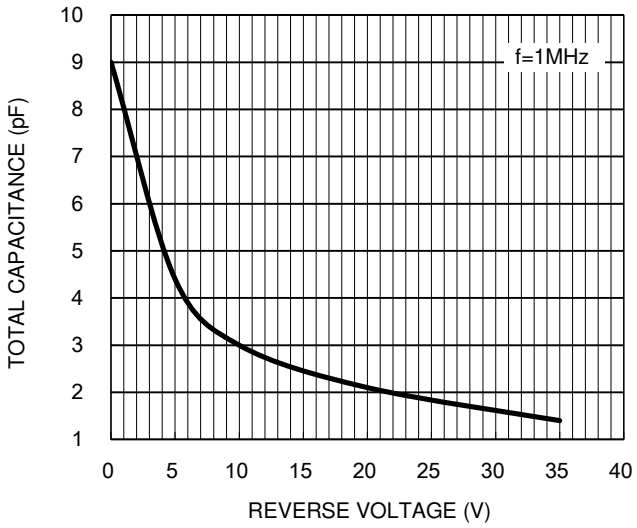
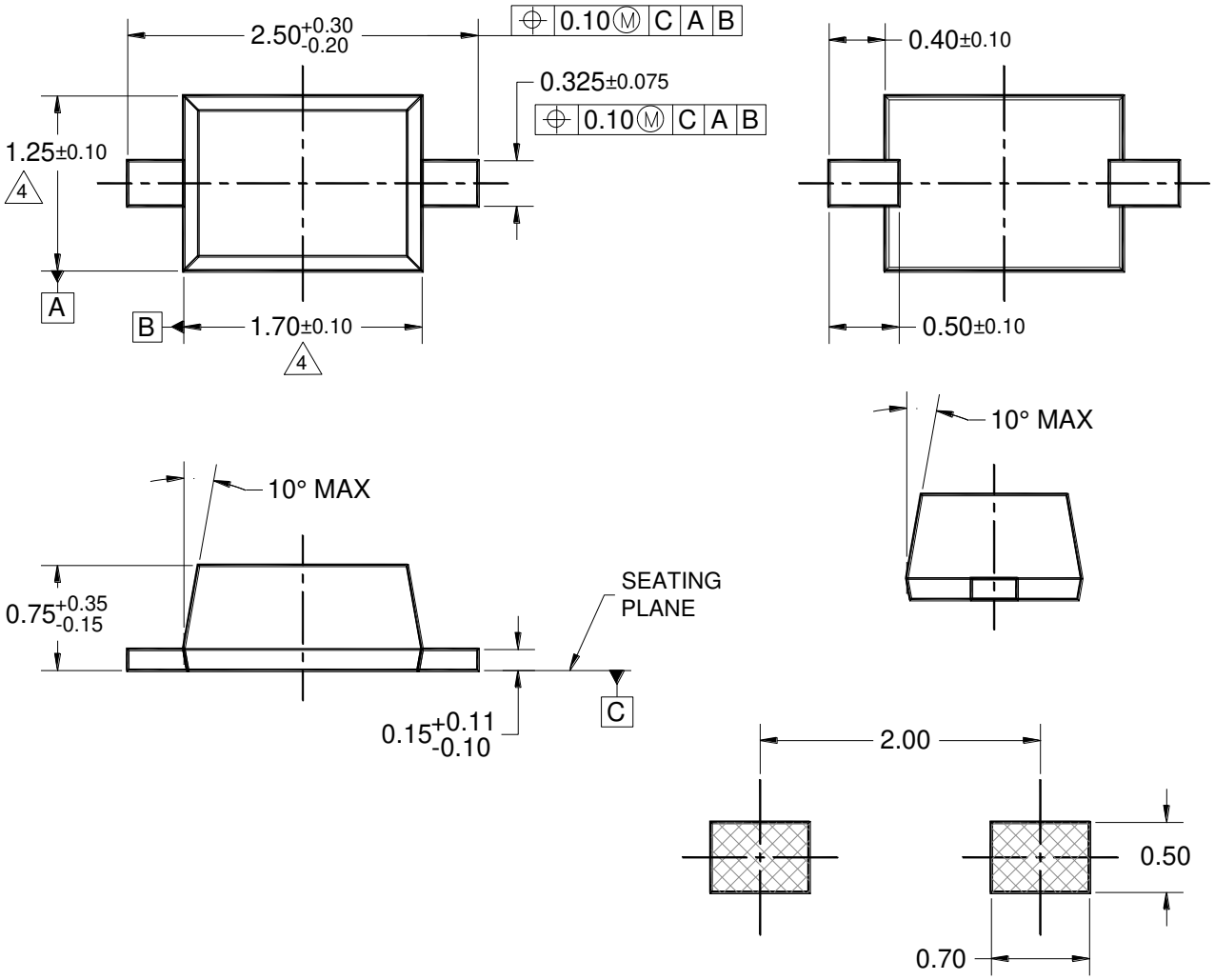


Fig.4 Total Capacitance VS. Reverse Voltage

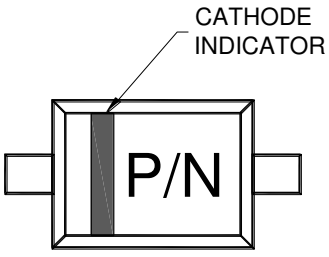


PACKAGE OUTLINE DIMENSIONS

SOD-323F



SUGGESTED PAD LAYOUT



MARKING DIAGRAM

P/N = MARKING CODE

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
3. PACKAGE OUTLINE REFERENCE: EIAJ ED-7500A-1, SC-90.
4. MOLDED PLASTIC BODY LATERAL DIMENSIONS DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DWG NO. REF: HQ2SD07-SOD323F-018 REV A.

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