

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 $I_F = 200\text{mA}$	1	V
$T_{J\text{MAX}}$	125	°C
Package	SOD-323F	
Configuration	Single die	


SOD-323F


ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ 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	I_{FSM}	2		A
Junction temperature range	T_J	-65 to +125		°C
Storage temperature range	T_{STG}	-65 to +125		°C

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)							
PARAMETER		CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	BAT42WS	$I_F = 10\text{mA}, T_J = 25^\circ\text{C}$	V_F	-	-	0.40	V
		$I_F = 50\text{mA}, T_J = 25^\circ\text{C}$		-	-	0.65	V
		$I_F = 200\text{mA}, T_J = 25^\circ\text{C}$		-	-	1.00	V
	BAT43WS	$I_F = 2\text{mA}, T_J = 25^\circ\text{C}$		-	-	0.33	V
		$I_F = 15\text{mA}, T_J = 25^\circ\text{C}$		-	-	0.45	V
		$I_F = 200\text{mA}, T_J = 25^\circ\text{C}$		-	-	1.00	V
Reverse voltage		$I_R = 100\mu\text{A}, T_J = 25^\circ\text{C}$	V_R	30	-	-	V
Reverse current @ rated V_R ⁽²⁾		$V_R = 25\text{V}, T_J = 25^\circ\text{C}$	I_R	-	-	500	nA
Junction capacitance		1MHz, $V_R = 1\text{V}$	C_J	-	7	-	pF
Reverse recovery time		$I_F = I_R = 10\text{mA}, R_L = 100\Omega$ $I_{rr} = 1\text{mA}$	t_{rr}	-	5	-	ns

Notes:

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

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

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

Fig.1 Forward Current Derating Curve

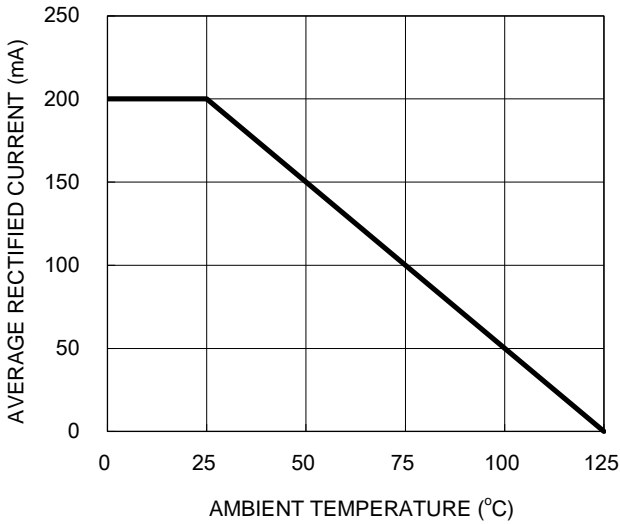


Fig.2 Typical Forward Characteristics

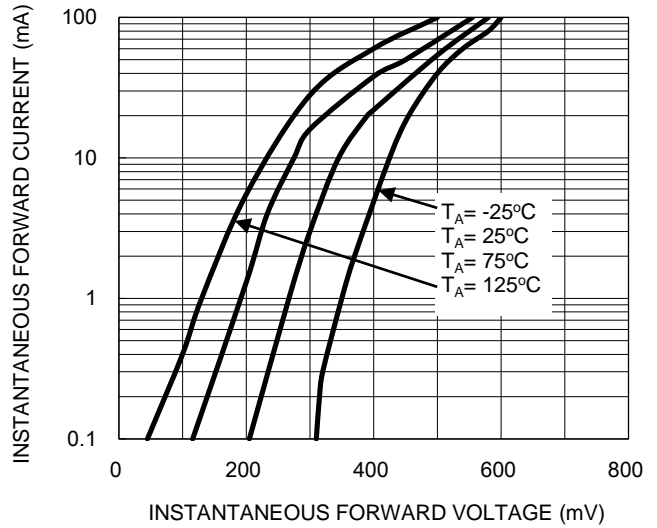


Fig.3 Typical Reverse Characteristics

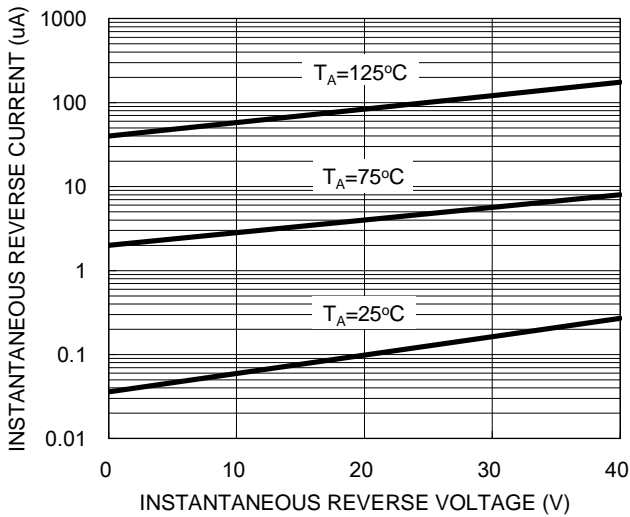
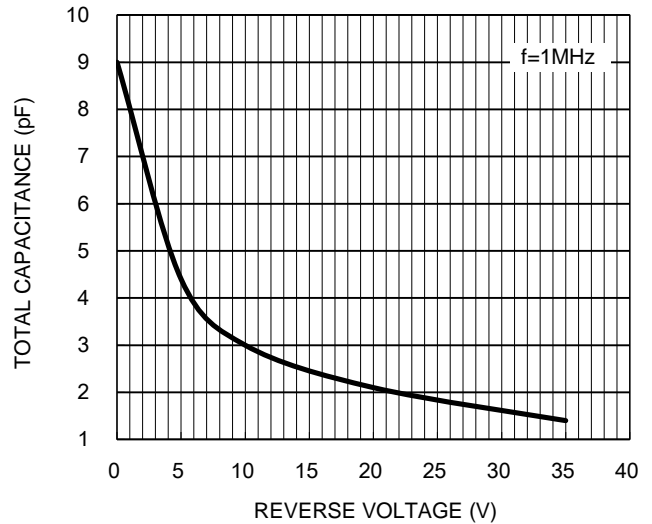
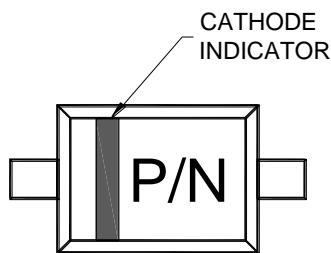
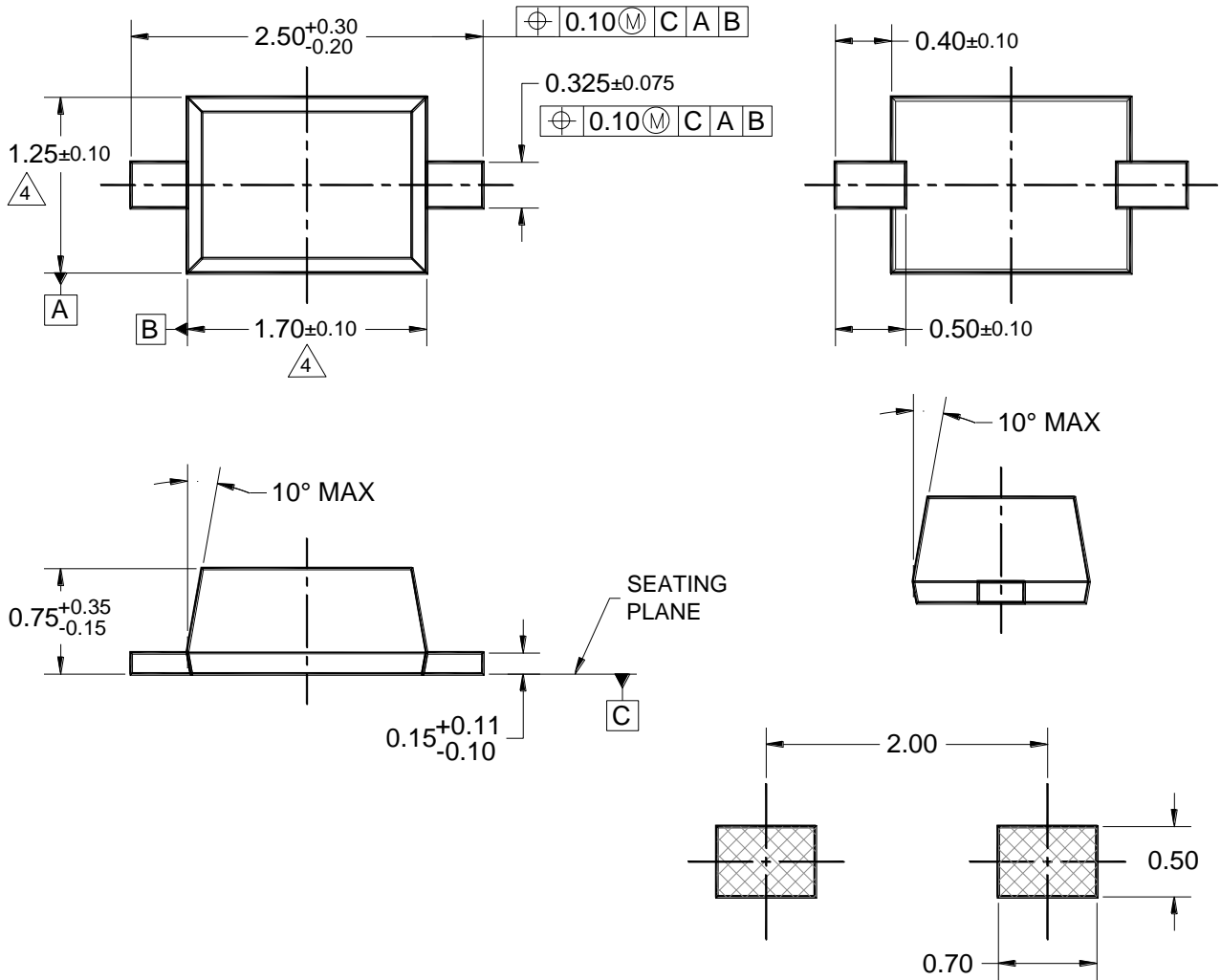


Fig.4 Total Capacitance VS. Reverse Voltage



PACKAGE OUTLINE DIMENSIONS

SOD-323F



MARKING DIAGRAM

P/N = MARKING CODE

SUGGESTED PAD LAYOUT

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.

- $\triangle 4$ 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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