250mA, 100V High-Speed Switching SMD Diode

FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- On-board DC/DC converter

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
- Weight: 4.60mg (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	250	mA
V_{RRM}	100	V
V_F at I_F = 150mA	1.25	V
$T_{J\,MAX}$	150	°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**	**BAS316WS**	**UNIT**
Marking code on the device			W2	
Repetitive peak reverse voltage		V_{RRM}	100	V
Forward current		I_F	250	mA
Non-repetitive peak forward surge current	t = 1ms	I_{FSM}	1	A
	t = 1μs		4	A
Junction temperature range		T_J	-65 to +150	°C
Storage temperature range		T_{STG}	-65 to +150	°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	351	°C/W

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

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

PARAMETER	CONDITIONS	SYMBOL	MIN	MAX	UNIT
Forward voltage[1]	I_F = 1mA, T_J = 25°C	V_F	-	0.715	V
	I_F = 10mA, T_J = 25°C		-	0.855	V
	I_F = 50mA, T_J = 25°C		-	1.000	V
	I_F = 150mA, T_J = 25°C		-	1.250	V
Reverse voltage	I_R = 100μA, T_J = 25°C	V_R	100	-	V
Reverse current @ rated V_R[2]	V_R = 25V T_J = 25°C	I_R	-	0.03	μA
	V_R = 75V T_J = 25°C		-	1.00	μA
Junction capacitance	1MHz, V_R = 0V	C_J	-	1.5	pF
Reverse recovery time	I_F = 10mA, I_R = 10mA, I_{rr} = 1mA	t_{rr}	-	4.0	ns

Notes:

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

ORDERING INFORMATION

ORDERING CODE[1]	PACKAGE	PACKING
BAS316WS RR	SOD-323F	3,000 / 7" Tape & Reel
BAS316WS RRG	SOD-323F	3,000 / 7" Tape & Reel
BAS316WS R9	SOD-323F	10,000 / 13" Tape & Reel
BAS316WS R9G	SOD-323F	10,000 / 13" Tape & Reel

Notes:

1. "G" means green compound (halogen-free according to IEC 61249-2-21)

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Typical Forward Characteristics

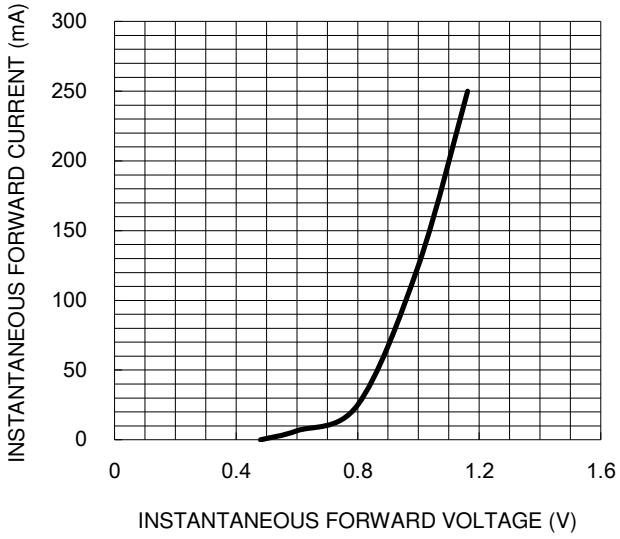


Fig.2 Reverse Current VS. Junction Temperature

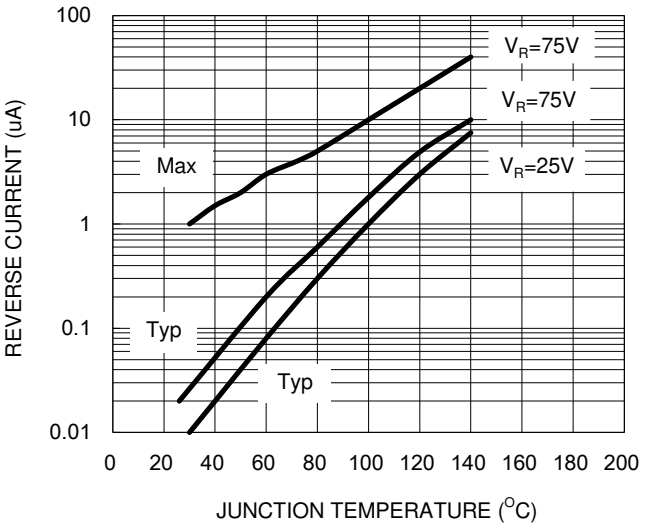


Fig.3 Power Dissipation Curve

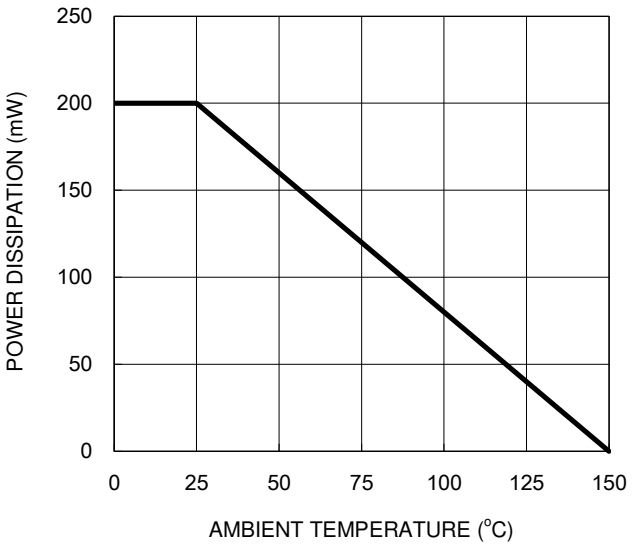
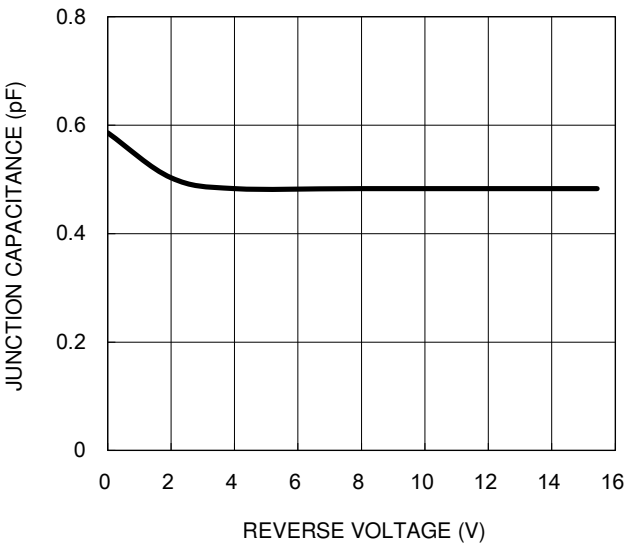
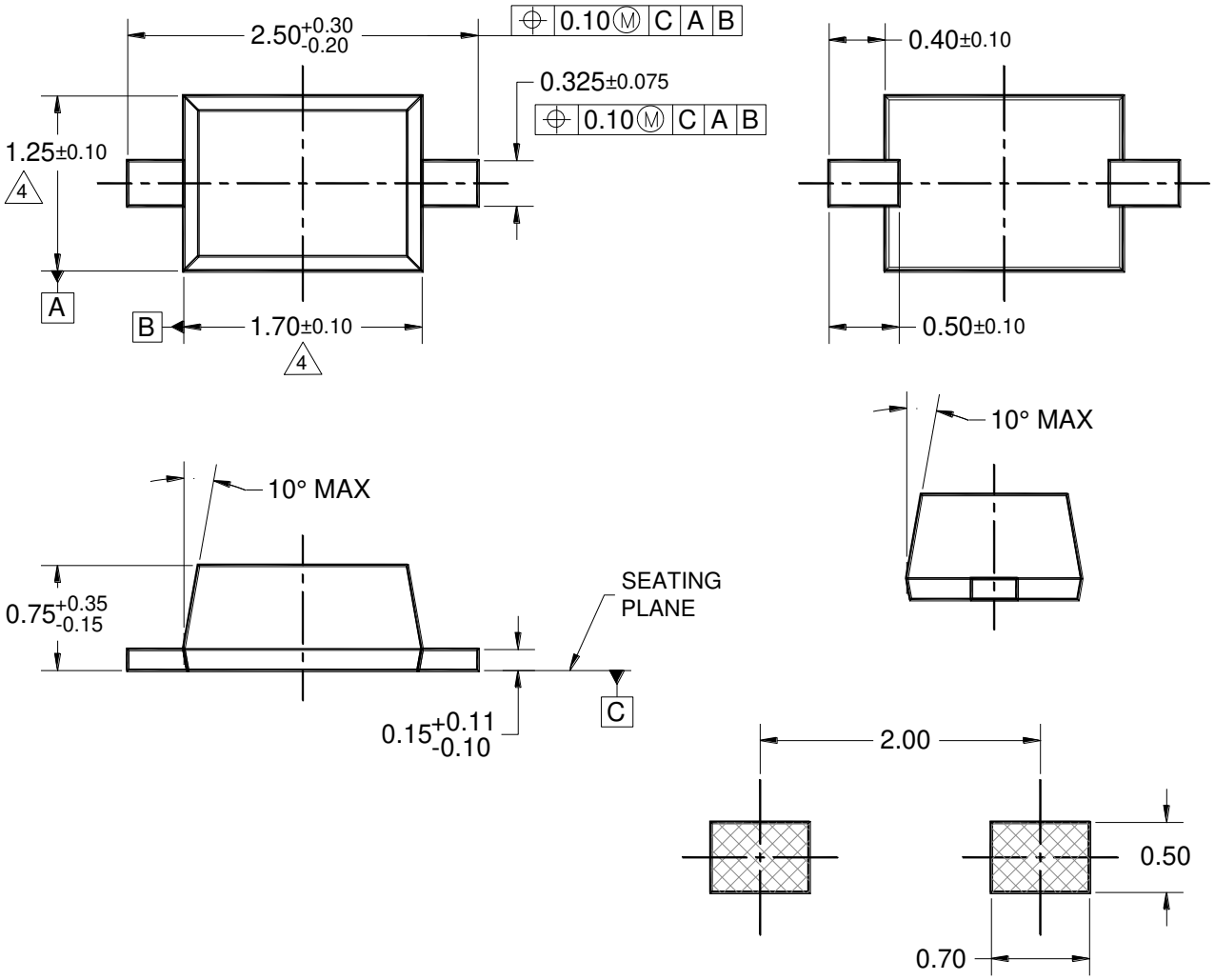


Fig.4 Typical Junction Capacitance

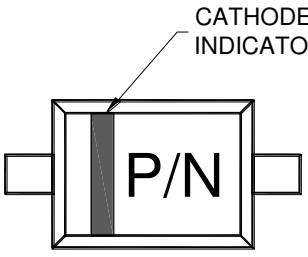


PACKAGE OUTLINE DIMENSIONS

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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