200mA, 120V - 250V High Voltage SMD Switching 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

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	200	mA
V_{RRM}	120 - 250	V
I_{FSM}	2.5	A
V_F at I_F = 200mA	1.25	V
$T_{J\,MAX}$	150	°C
Package	SOD-323F	
Configuration	Single die	



SOD-323F



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)						
PARAMETER		**SYMBOL**	**BAV19WS**	**BAV20WS**	**BAV21WS**	**UNIT**
Marking code on the device			S5	S6	S7	
Power dissipation		P_D	200			mW
Average forward current		I_F	200			mA
Repetitive peak reverse voltage		V_{RRM}	120	200	250	V
Non-repetitive square wave peak forward current	t = 1s	I_{FSM}	0.5			A
	t = 1μs		2.5			A
Junction temperature range		T_J	-65 to +150			°C
Storage temperature range		T_{STG}	-65 to +150			°C

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

PARAMETER		CONDITIONS	SYMBOL	MIN	MAX	UNIT
Forward voltage[1]		I_F = 100mA, T_J = 25°C	V_F	-	1.00	V
		I_F = 200mA, T_J = 25°C		-	1.25	V
Reverse voltage	BAV19WS	I_R = 100μA, T_J = 25°C	V_R	120	-	V
	BAV20WS			200	-	V
	BAV21WS			250	-	V
Reverse current[2]	BAV19WS	V_R = 100V T_J = 25°C	I_R	-	0.1	μA
	BAV20WS	V_R = 150V T_J = 25°C		-	0.1	μA
	BAV21WS	V_R = 200V T_J = 25°C		-	0.1	μA
Junction capacitance		1MHz, V_R = 0V	C_J	-	5	pF
Reverse recovery time		I_F = I_R = 30mA, R_L = 100Ω, I_{rr} = 3mA	t_{rr}	-	50	ns

Notes:

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

ORDERING INFORMATION

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

Notes:

1. "x" is device code from "19"(BAV19WS) to "21"(BAV21WS)
2. "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

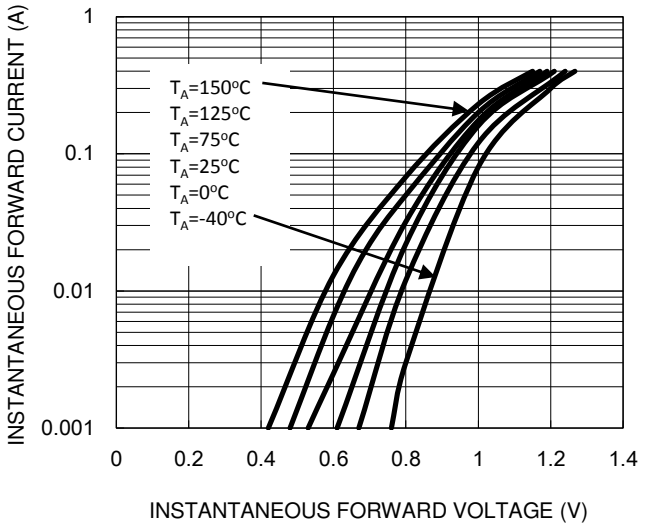


Fig.2 Typical Reverse Characteristics

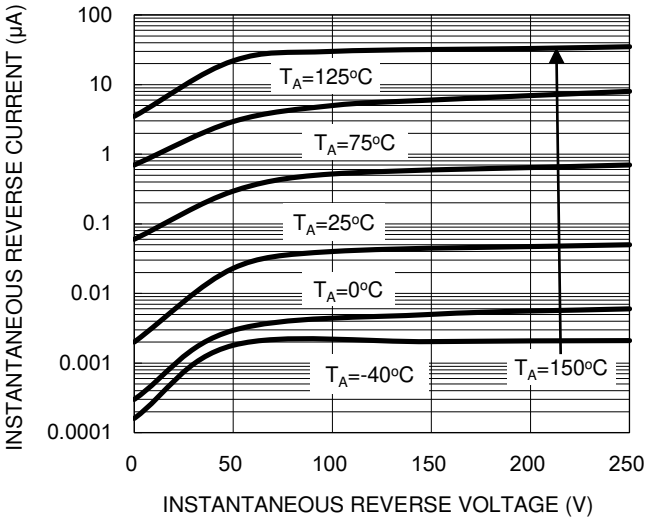


Fig.3 Typical Capacitance VS. Reverse Voltage

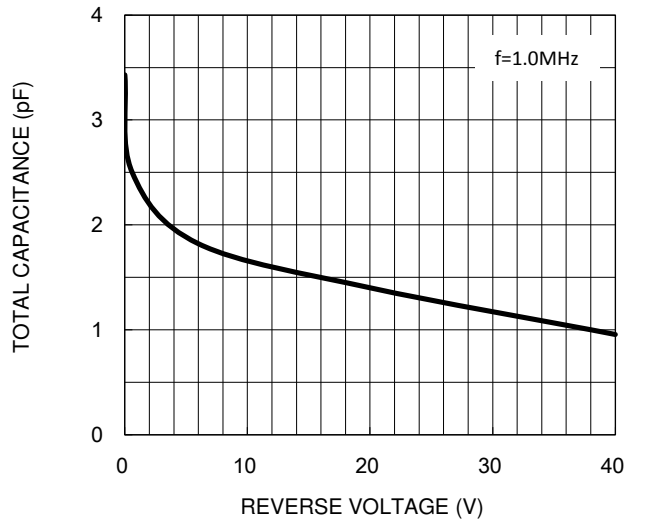
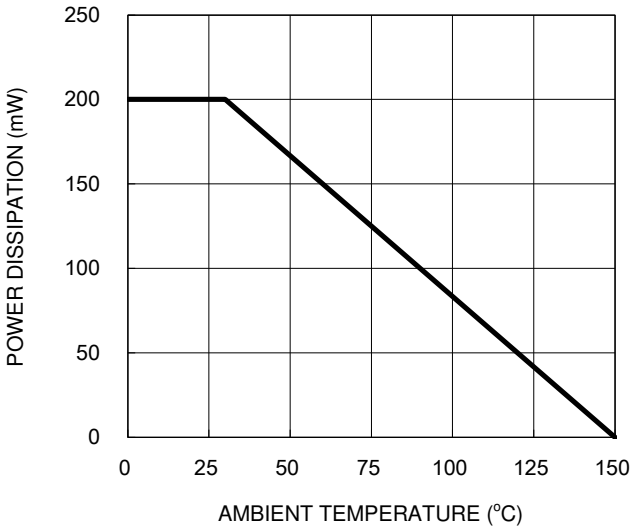
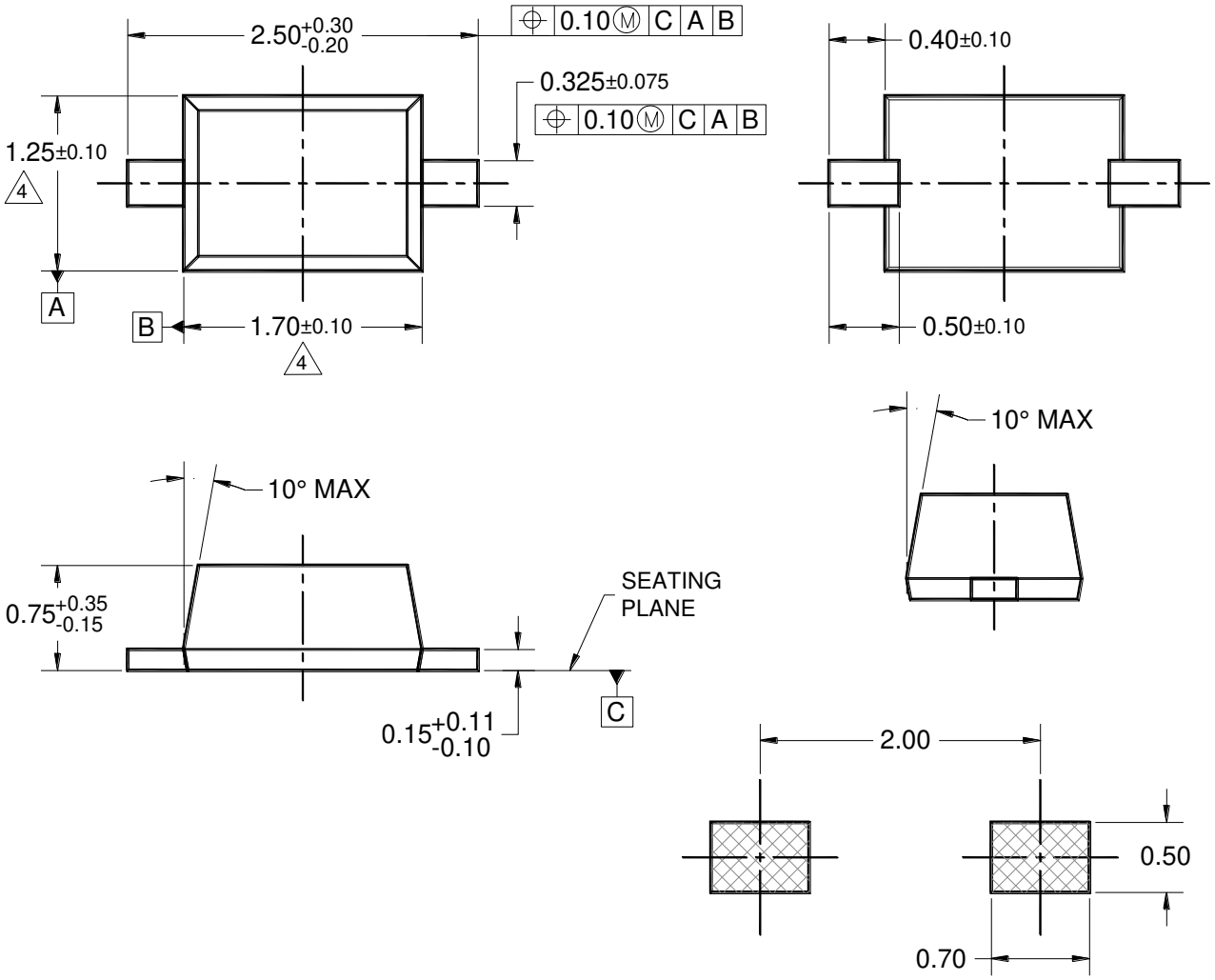


Fig.4 Power Derating Curve

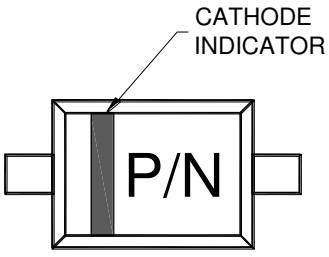


PACKAGE OUTLINE DIMENSIONS

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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