

1A, 20V Schottky Barrier Surface Mount Rectifier

FEATURES

- Low forward voltage, high efficiency
- High speed switching
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Low stored charge
- For switching power supply
- Protection circuits

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	1	A
V_{RRM}	20	V
I_{FSM}	5	A
$T_{J\ MAX}$	125	°C
Package	SOD-323F	
Configuration	Single die	



SOD-323F



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage	V_{RRM}	20	V
Reverse voltage, total rms value	$V_{R(RMS)}$	14	V
Forward current	I_F	1	A
Surge peak forward current 8.3ms single sine-wave superimposed on rated load	I_{FSM}	5	A
Junction temperature	T_J	-55 to +125	°C
Storage temperature	T_{STG}	-55 to +150	°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	220	°C/W

Thermal Performance Note: Units mounted on PCB (10mm x 5mm Cu pad test board)

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	$I_F = 10\text{mA}, T_J = 25^\circ\text{C}$	V_F	266	290	mV
	$I_F = 100\text{mA}, T_J = 25^\circ\text{C}$		337	360	mV
	$I_F = 1000\text{mA}, T_J = 25^\circ\text{C}$		487	650	mV
Reverse current @ rated V_R ⁽²⁾	$V_R = 5\text{V}, T_J = 25^\circ\text{C}$	I_R	-	10	μA
	$V_R = 8\text{V}, T_J = 25^\circ\text{C}$		-	20	μA
	$V_R = 15\text{V}, T_J = 25^\circ\text{C}$		-	50	μA
Junction capacitance	$f = 1\text{MHz}, V_R = 5\text{V}$	C_J	29	35	pF

Notes:

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

ORDERING INFORMATION		
ORDERING CODE	PACKAGE	PACKING
BAT201M3 RRG	SOD-323F	3,000 / 7" Tape & Reel

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

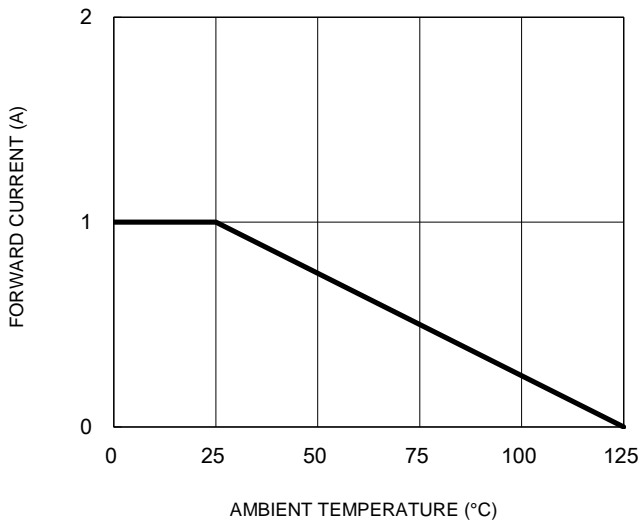


Fig.2 Typical Junction Capacitance

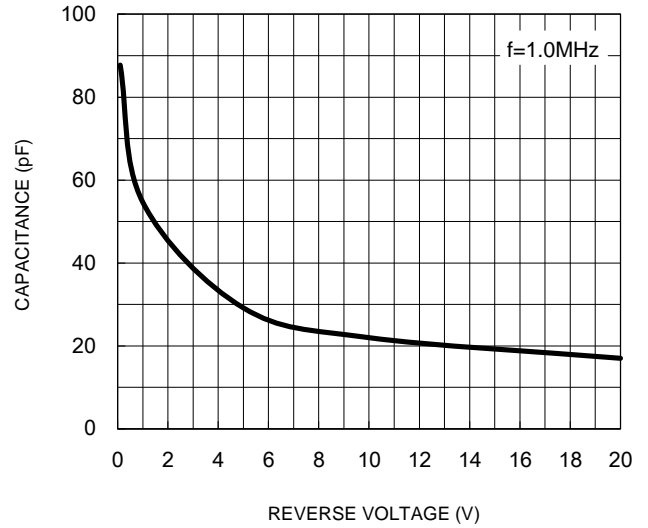


Fig.3 Typical Reverse Characteristics

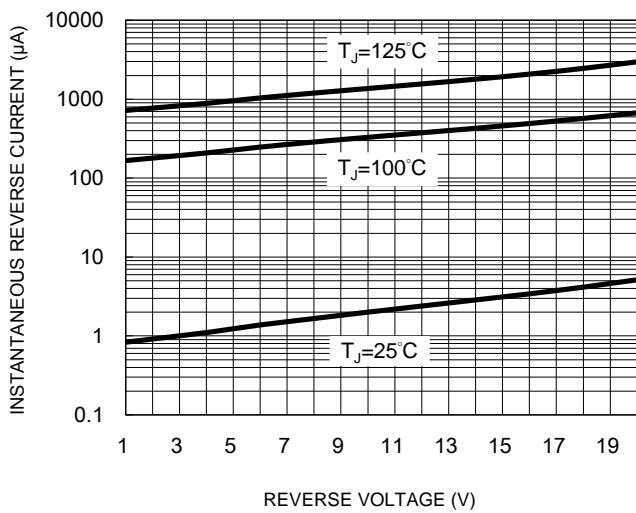
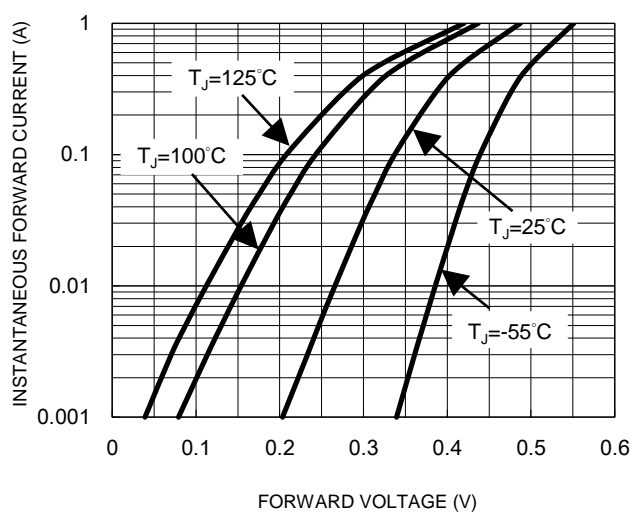
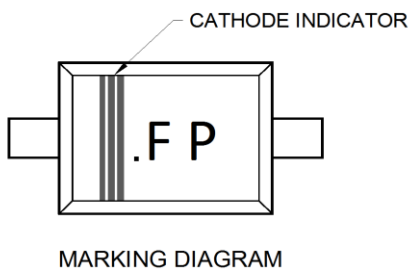
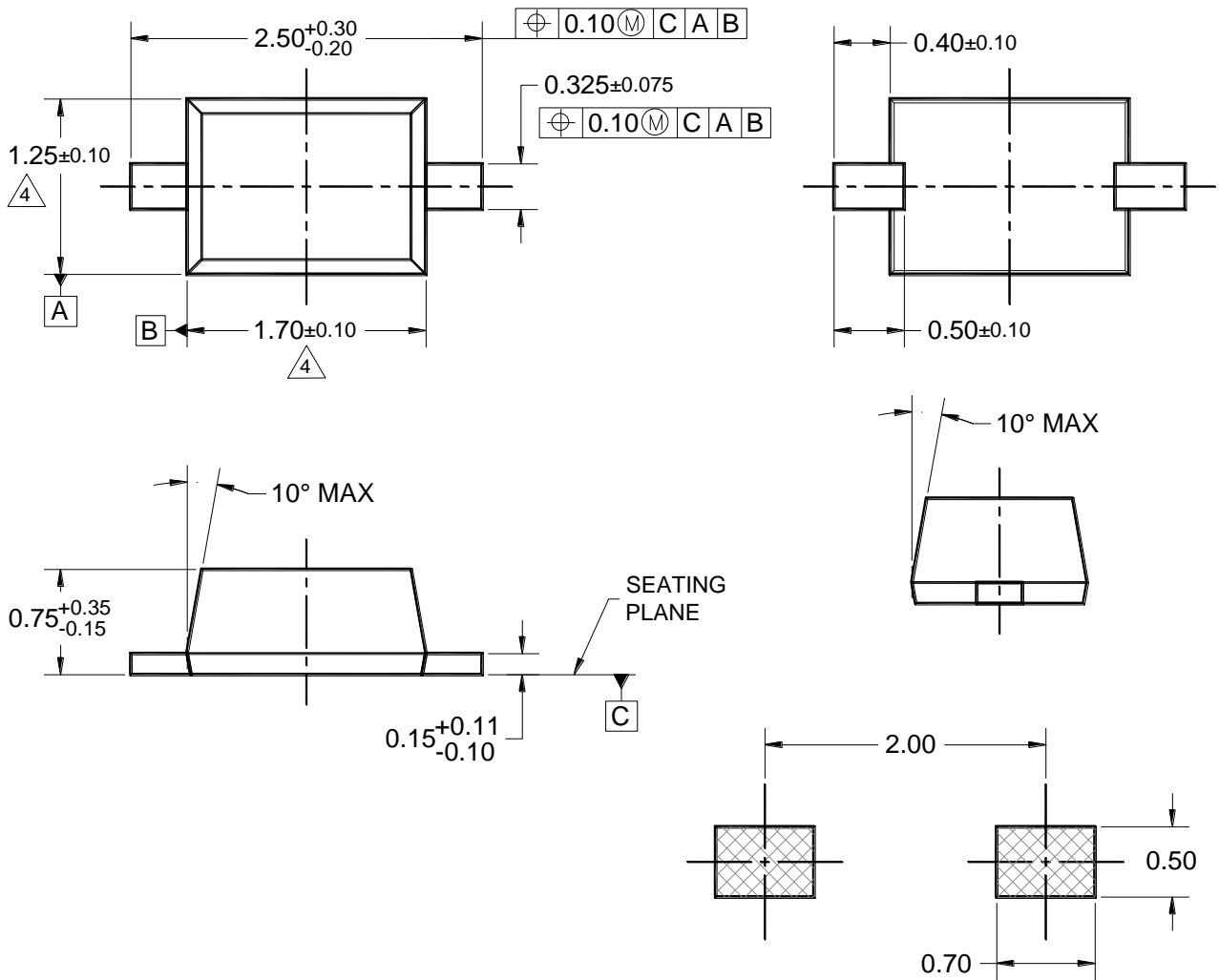


Fig.4 Typical Forward Characteristics



PACKAGE OUTLINE DIMENSIONS

SOD-323F



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.

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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