100mA, 45V Low V_F 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
- Halogen-free

APPLICATIONS

- Adapters
- For switching power supply
- Low stored charge
- 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
- Weight: 4.60mg (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	100	mA
V_{RRM}	45	V
I_{FSM}	1	A
V_F at I_F = 10mA	0.45	V
$T_{J\ MAX}$	125	°C
Package	SOD-323F	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE

SOD-323F

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETER		SYMBOL	RB500V-40	UNIT
Marking code on the device			S9	
Peak reverse voltage		V_{RM}	45	V
Reverse voltage		V_R	40	V
Forward current		I_F	100	mA
Non-repetitive peak forward surge current	t = 8.3ms	I_{FSM}	1	A
Junction temperature range		T_J	-40 to +125	°C
Storage temperature range		T_{STG}	-40 to +125	°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	LIMIT	UNIT
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	500	°C/W

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)					
PARAMETER	**CONDITIONS**	**SYMBOL**	**TYP**	**MAX**	**UNIT**
Reverse Breakdown Voltage	I_R = 100μA, T_J = 25°C	V_{BR}	45	-	V
Forward voltage(1)	I_F = 10mA, T_J = 25°C	V_F	-	0.45	V
Reverse current @ V_R(2)	V_R = 10V, T_J = 25°C	I_R	-	1	μA
Junction capacitance	1MHz, V_R = 10V	C_J	-	6	pF

Notes:

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

ORDERING INFORMATION		
ORDERING CODE(1)	**PACKAGE**	**PACKING**
RB500V-40 RR	SOD-323F	3,000 / 7" Tape & Reel
RB500V-40 RRG	SOD-323F	3,000 / 7" Tape & Reel
RB500V-40 R9	SOD-323F	10,000 / 13" Tape & Reel
RB500V-40 R9G	SOD-323F	10,000 / 13" Tape & Reel

Notes:

1. “G” means green compound

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

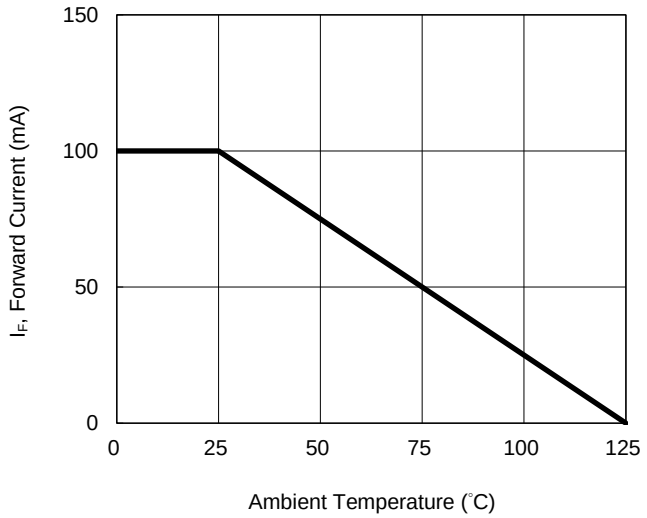


Fig.2 Typical Forward Characteristics

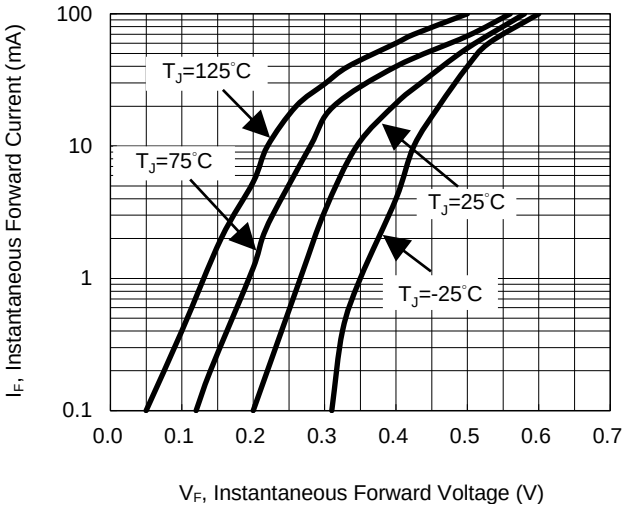


Fig.3 Typical Reverse Characteristics

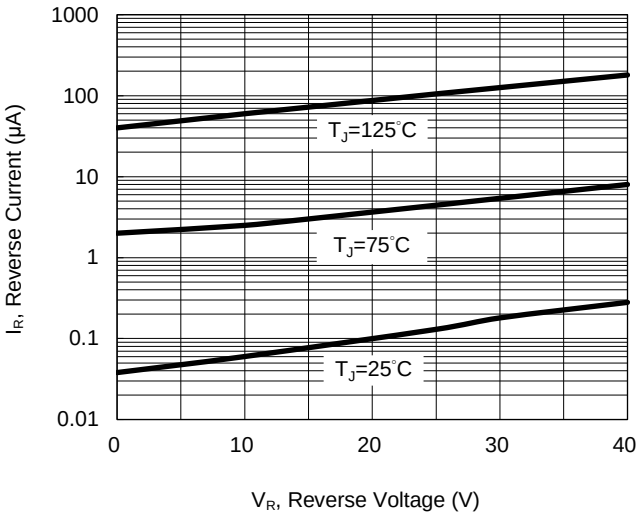
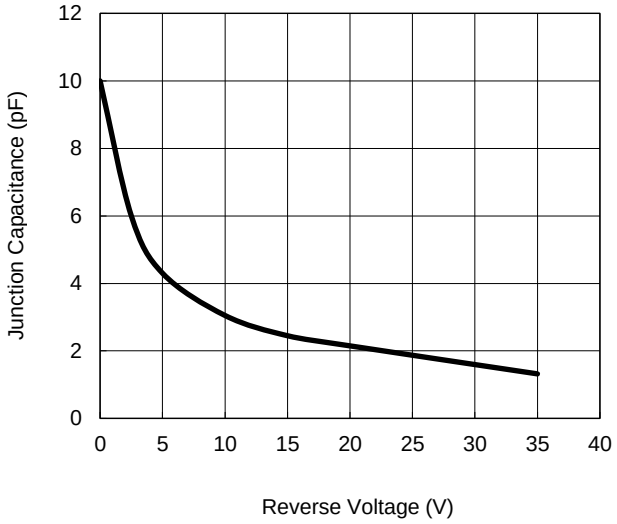
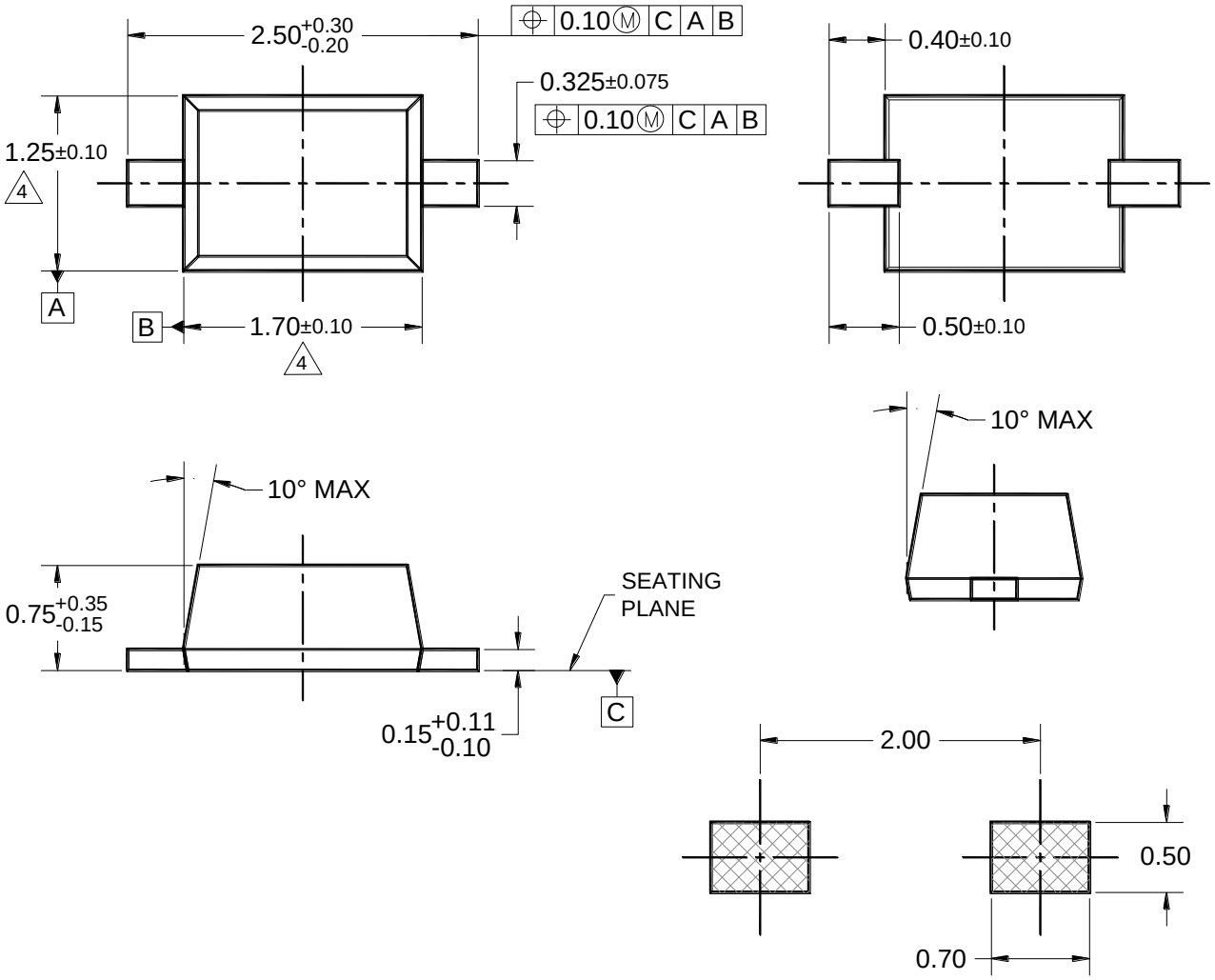


Fig.4 Typical Junction Capacitance

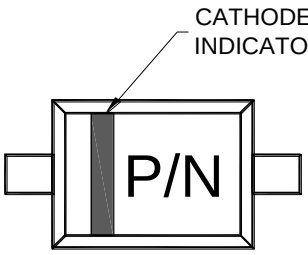


PACKAGE OUTLINE DIMENSIONS

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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