

## 30mA, 40V Low $V_F$ SMD Schottky Barrier Diode

### FEATURES

- Low power loss, high current capability, low  $V_F$
- Surface mount device type
- 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
$I_F$	30	mA
$V_{RRM}$	40	V
$V_F$ at $I_F = 1\text{mA}$	0.37	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	RB751V-40WS	UNIT
Marking code on the device		S8	
Power Dissipation	$P_D$	200	mW
Repetitive Peak Reverse Voltage	$V_{RRM}$	40	V
Reverse Voltage	$V_R$	30	V
Forward current	$I_F$	30	mA
Non-repetitive peak forward surge current	60Hz for 1 Cyc. $I_{FSM}$	0.2	A
Junction temperature range	$T_J$	-40 to +125	°C
Storage temperature range	$T_{STG}$	-40 to +125	°C

<b>THERMAL PERFORMANCE</b>			
PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	500	°C/W

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward Voltage <sup>(1)</sup>	$I_F = 1\text{mA}$	$V_F$	-	0.37	V
Reverse current @ rated $V_R$ <sup>(2)</sup>	$V_R = 30\text{V}$	$I_R$	-	0.50	μA
Junction capacitance	1MHz, $V_R = 1\text{V}$	$C_J$	2	-	pF

**Notes:**

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

<b>ORDERING INFORMATION</b>		
ORDERING CODE <sup>(1)</sup>	PACKAGE	PACKING
RB751V-40WS RR	SOD-323F	3K / 7" Reel
RB751V-40WS RRG	SOD-323F	3K / 7" Reel
RB751V-40WS R9	SOD-323F	10K / 13" Reel
RB751V-40WS R9G	SOD-323F	10K / 13" Reel

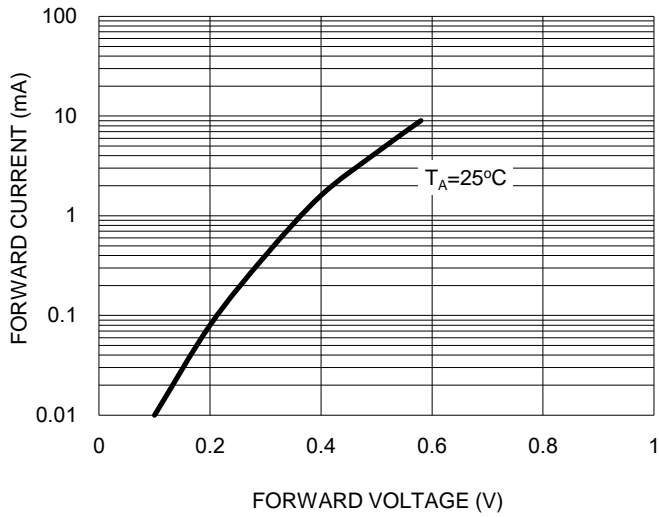
**Notes:**

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

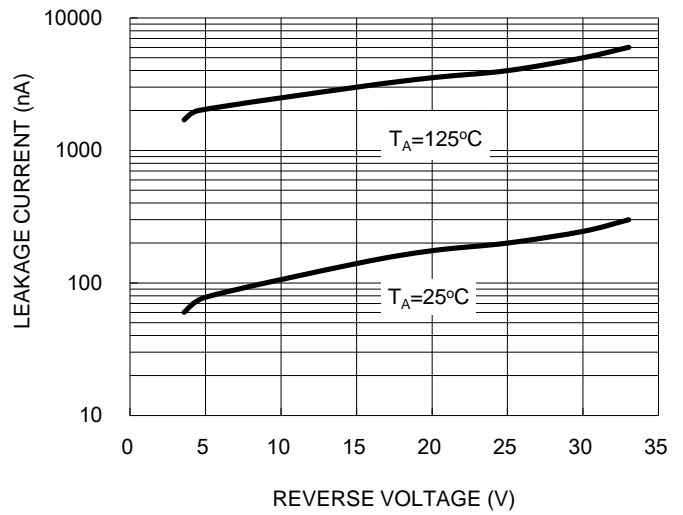
**CHARACTERISTICS CURVES**

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

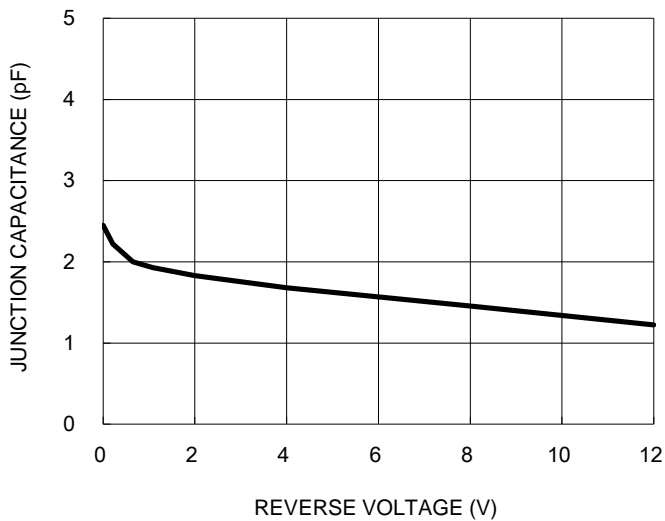
**Fig.1 Typical Forward Characteristics**



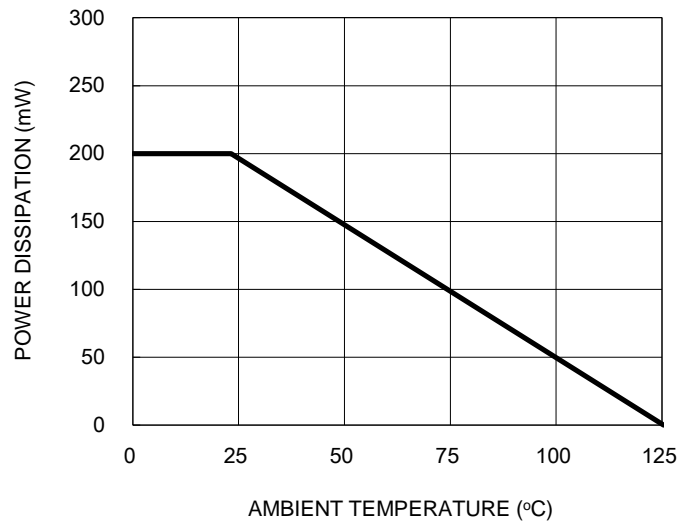
**Fig.2 Typical Reverse Characteristics**



**Fig.3 Typical Junction Capacitance**

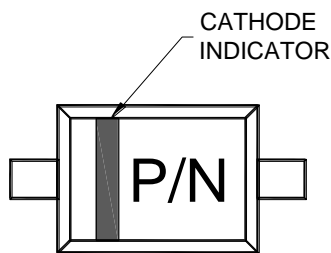
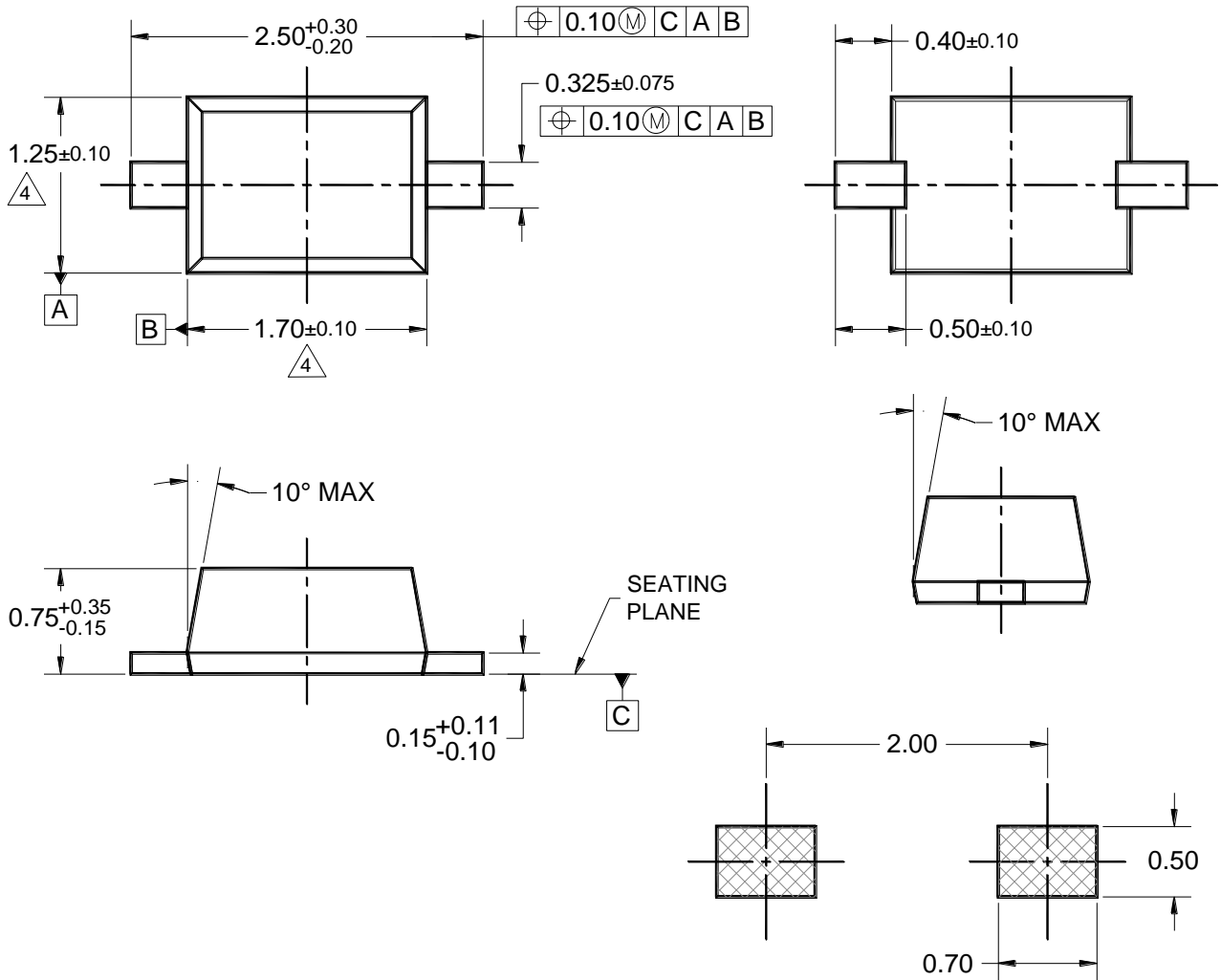


**Fig.4 Power Dissipation Curve**



**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.

**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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