

## 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
- Halogen-free according to IEC 61249-2-21

### 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
$P_D$	200	mW
$V_{RRM}$	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
Mean Forward Current		$I_O$	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

**THERMAL PERFORMANCE**

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

**ELECTRICAL SPECIFICATIONS** ( $T_A = 25^\circ\text{C}$  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>	$V_R = 30\text{V}$	$I_R$	-	0.5	$\mu\text{A}$
Junction capacitance	1MHz, $V_R = 1\text{V}$	$C_J$	2	-	pF

**Notes:**

1. Pulse test with  $PW = 0.3\text{ms}$
2. Pulse test with  $PW = 30\text{ms}$

**ORDERING INFORMATION**

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

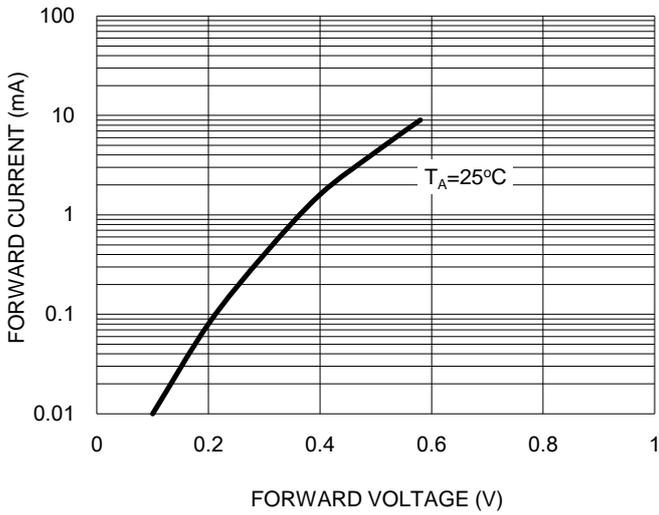
**Notes:**

1. "G" means green compound (halogen free)

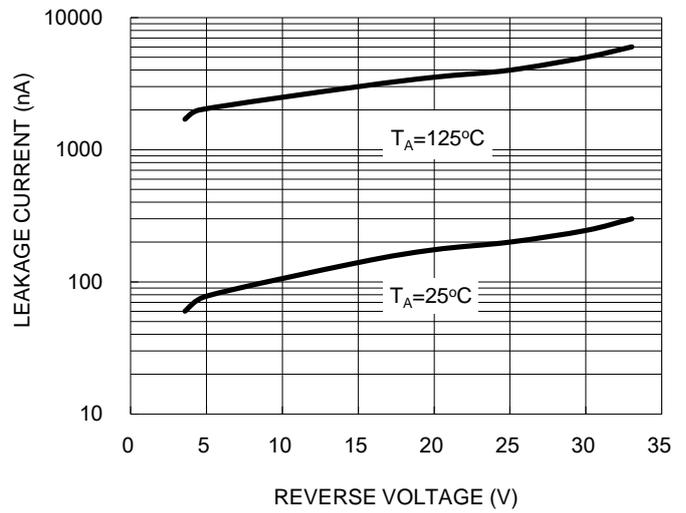
**CHARACTERISTICS CURVES**

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

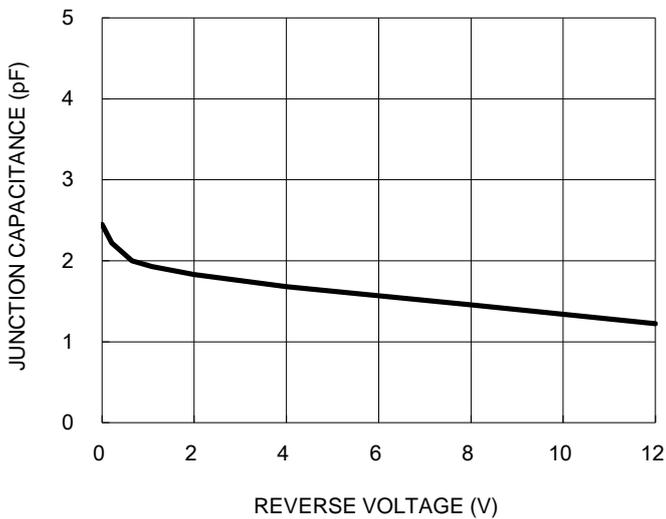
**Fig.1 Typical Forward Characteristics**



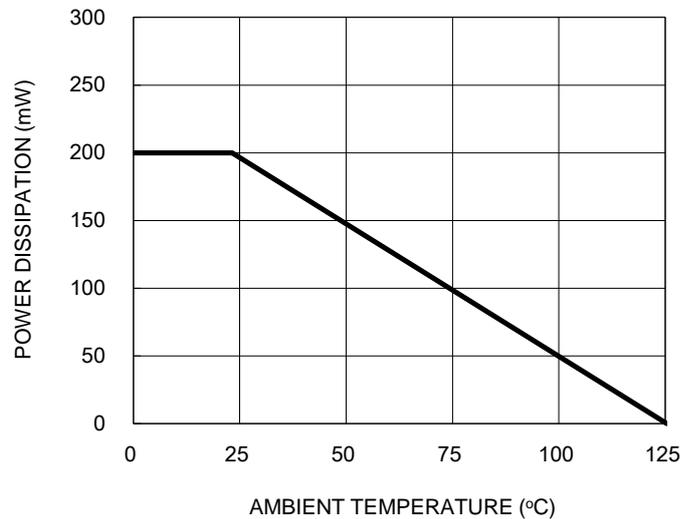
**Fig.2 Typical Reverse Characteristics**



**Fig.3 Typical Junction Capacitance**

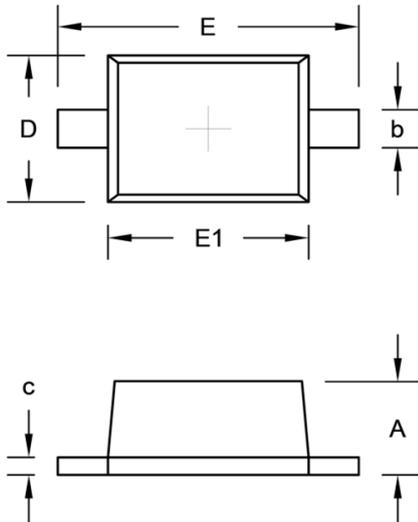


**Fig.4 Power Dissipation Curve**



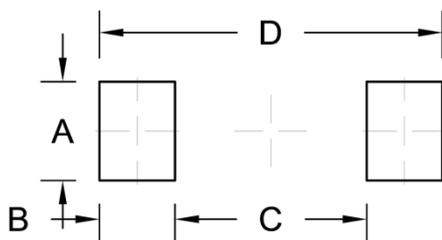
**PACKAGE OUTLINE DIMENSION**

SOD-323F



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	0.60	1.00	0.024	0.039
b	0.25	0.40	0.010	0.016
c	0.05	0.25	0.002	0.010
D	1.15	1.35	0.045	0.053
E	2.30	2.80	0.091	0.110
E1	1.60	1.80	0.063	0.071

**SUGGEST PAD LAYOUT**



Symbol	Unit (mm)	Unit (inch)
A	0.83	0.033
B	0.63	0.025
C	1.60	0.063
D	2.86	0.113

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