

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	I_{FSM}	0.2	A
	60Hz for 1 Cyc.		
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 ⁽¹⁾	$I_F = 1\text{mA}$	V_F	-	0.37	V
Reverse current @ rated V_R ⁽²⁾	$V_R = 30\text{V}$	I_R	-	0.5	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

ORDERING INFORMATION		
ORDERING CODE⁽¹⁾	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

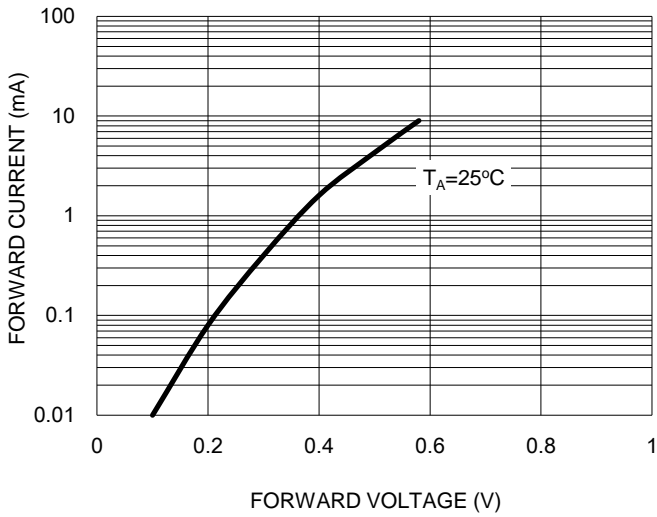


Fig.2 Typical Reverse Characteristics

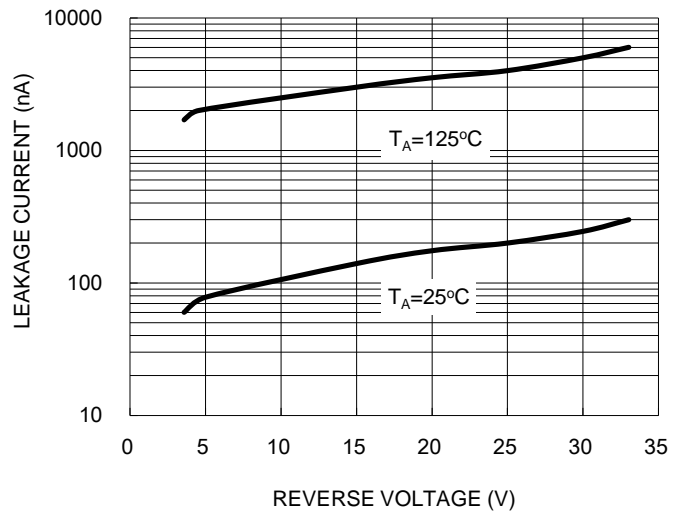


Fig.3 Typical Junction Capacitance

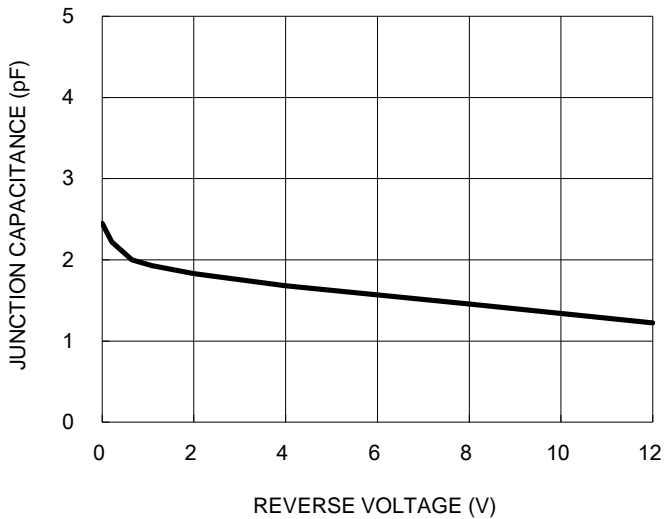
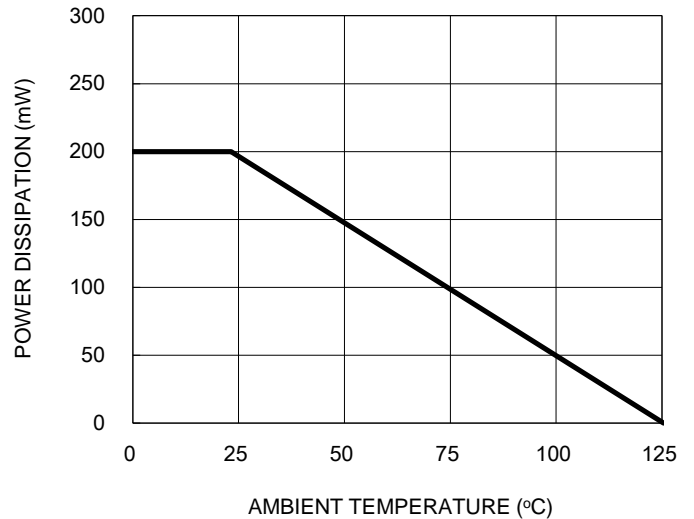
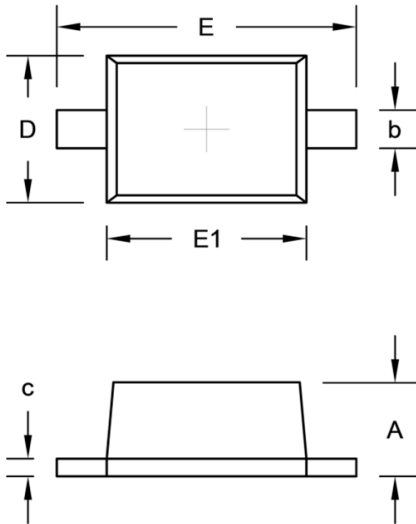


Fig.4 Power Dissipation Curve



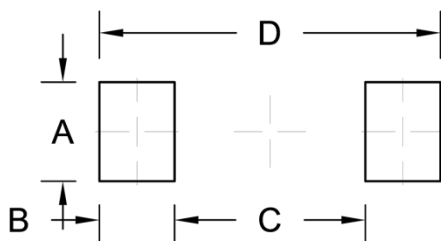
PACKAGE OUTLINE DIMENSION

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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