250mA, 100V High-Speed Switching SMD Diode

FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- High surge current capability
- Compliance to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- 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 94 V-0 flammability rating
- Moisture sensitivity level: level 1, per J-STD-020
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: Indicated by cathode band
- Weight: 4.6 ± 0.5mg (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
$I_{F(AV)}$	250	mA
V_{RRM}	100	V
V_F at I_F=150mA	1.25	V
T_J Max.	150	°C
Package	SOD-323F	
Configuration	Single dice	

Pb-Free RoHS COMPLIANT

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)				
PARAMETER		**SYMBOL**	**BAS316WS**	**UNIT**
Marking code on the device			W2	
Repetitive peak reverse voltage		V_{RRM}	100	V
Forward current		$I_{F(AV)}$	250	mA
Non-repetitive peak forward surge current	Pulse Width = 1 μs	I_{FRM}	4.0	A
	Pulse Width = 1 ms		1.0	
Junction temperature range		T_J	-65 to +150	°C
Storage temperature range		T_{STG}	-65 to +150	°C

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	MIN	MAX	UNIT
Forward voltage per diode (1)	I_F = 1.0mA, T_J = 25°C	V_F	-	0.715	V
	I_F = 10mA, T_J = 25°C		-	0.855	
	I_F = 50mA, T_J = 25°C		-	1.000	
	I_F = 150mA, T_J = 25°C		-	1.250	
Reverse voltage	I_R=100μA, T_J = 25°C	V_R	100	-	V
Reverse current @ rated V_R per diode (2)	V_R=20V T_J = 25°C	I_R	-	0.03	μA
	V_R=75V T_J = 25°C		-	1.00	
Junction capacitance	1 MHz, V_R=0V	C_J	-	1.5	pF
Reverse recovery time	I_F=10mA, I_R=10mA, I_{rr}=0.1x I_R	t_{rr}	-	4.0	ns

Notes:

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

ORDERING INFORMATION

PART NO.	PACKING CODE	PACKING CODE SUFFIX(*)	PACKAGE	PACKING
BAS316WS	RR	G	SOD-323F	3K / 7" Reel
	R9			10K / 13" Reel

Notes:

*: optional available

EXAMPLE

EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
BAS316WS RRG	BAS316WS	RR	G	Green compound

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Typical Forward Characteristics

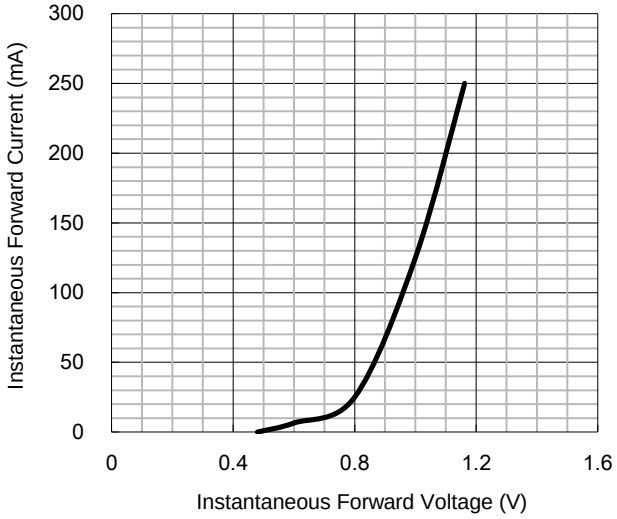


Fig.2 Reverse Current As A Function of Junction Temperature

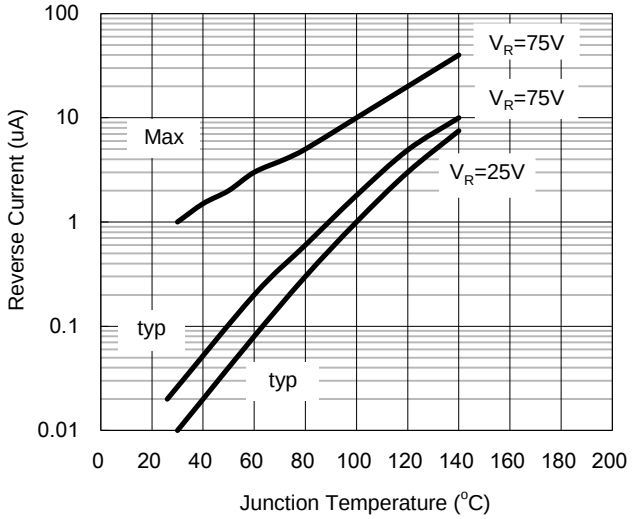


Fig.3 Admissible Power Dissipation Curve

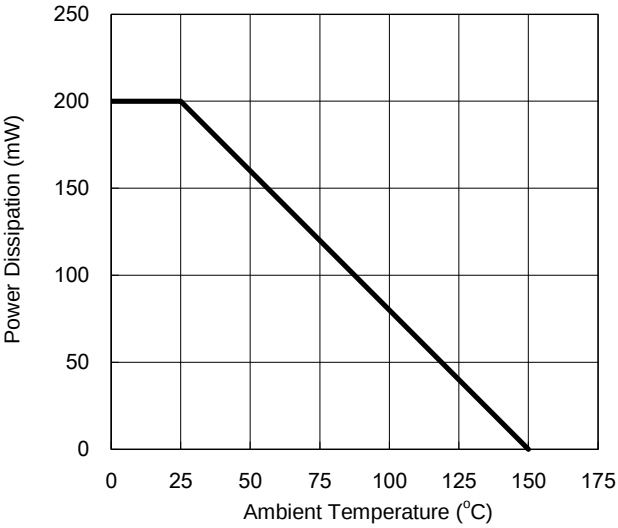
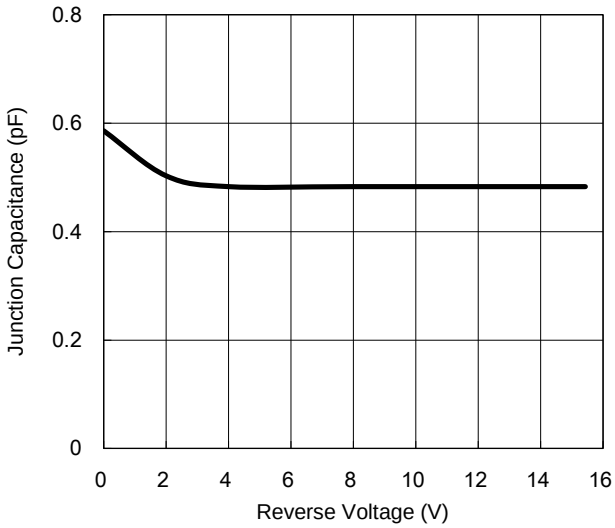
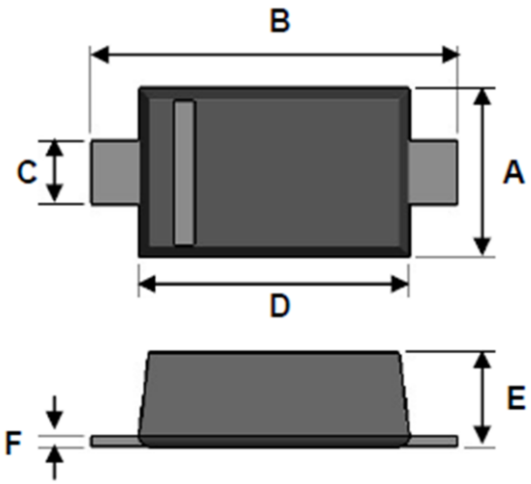


Fig.4 Typical Junction Capacitance



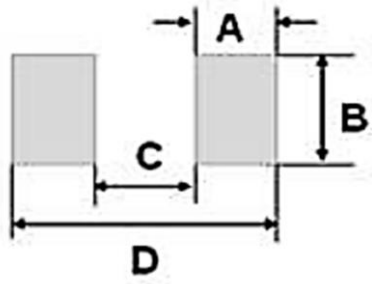
PACKAGE OUTLINE DIMENSION

SOD-323F



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.15	1.35	0.045	0.053
B	2.30	2.80	0.091	0.110
C	0.25	0.40	0.010	0.016
D	1.60	1.80	0.063	0.071
E	0.80	1.10	0.031	0.043
F	0.05	0.25	0.002	0.010

SUGGEST PAD LAYOUT



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

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