250mA, 100V SMD Switching Diode

FEATURES

- Fast switching device (trr<4ns)
- Ideal for automated placement
- Moisture sensitivity level: level 1, per J-STD-020
- 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-323
- Molding compound meets UL 94 V-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: 4.85 ± 0.5mg (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	250	mA
V_R	100	V
V_F at I_F=150mA	1.25	V
T_J Max.	150	°C
Package	SOD-323	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE





ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)				
PARAMETER		**SYMBOL**	**BAS316**	**UNIT**
Marking code on the device			A6	
Power dissipation		P_D	200	mW
Forward current		I_F	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 (2)	V_R = 25V T_J = 25°C	I_R	-	0.03	μA
	V_R = 75V T_J = 25°C		-	1.00	
Junction capacitance	f = 1 MHz, V_R = 0V	C_J	-	1.5	pF
Reverse recovery time	I_F = 10mA, I_R = 10mA, R_L = 100Ω	t_{rr}	-	4.0	ns

Notes:

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

ORDERING INFORMATION		
ORDERING CODE	**PACKAGE**	**PACKING**
BAS316 RRG	SOD-323	3K / 7" Reel

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Typical Forward Characteristics

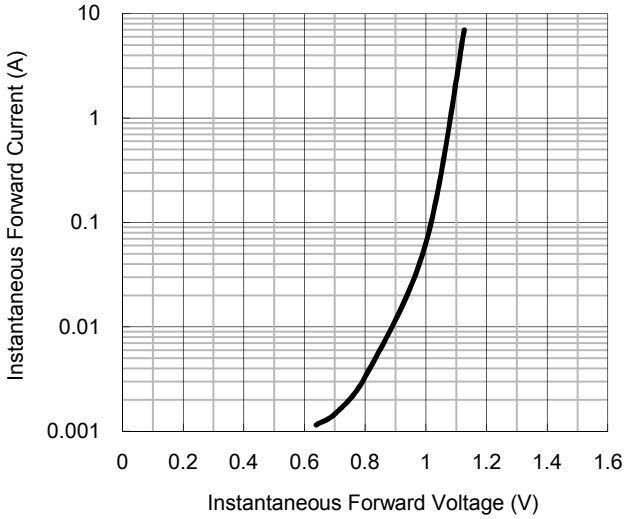


Fig.2 Reverse Current

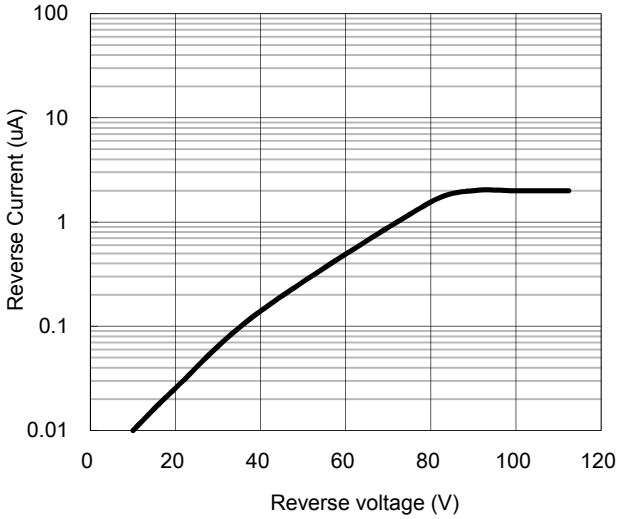


Fig.3 Admissible Power Dissipation Curve

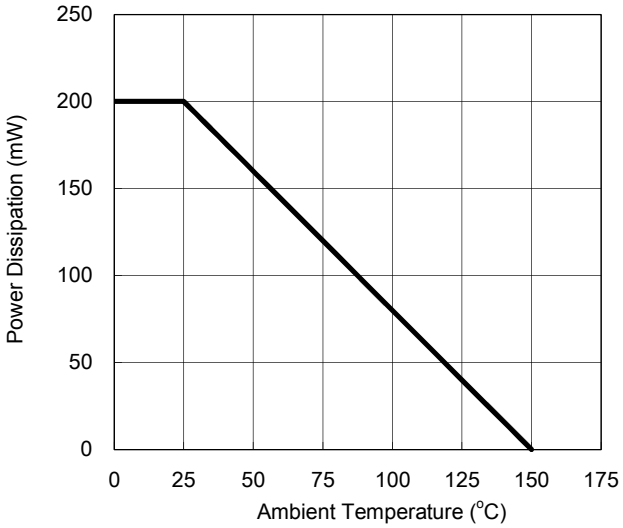
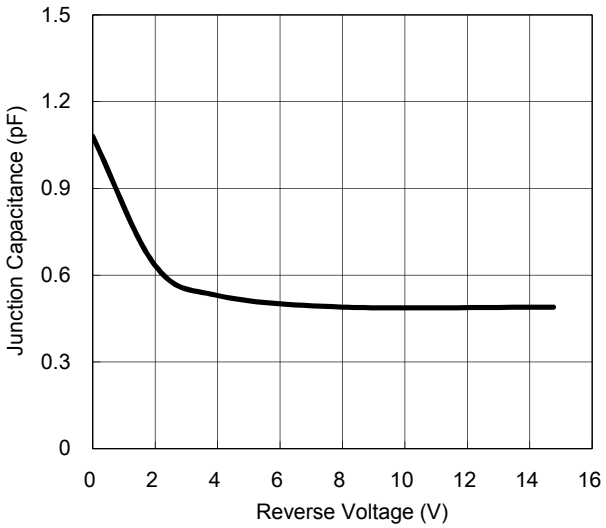
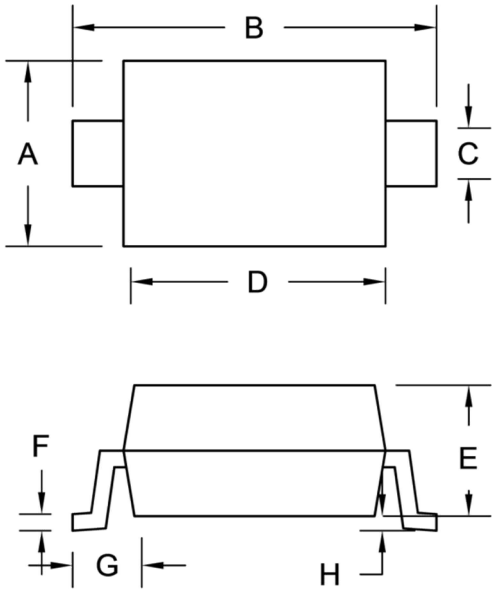


Fig.4 Typical Junction Capacitance



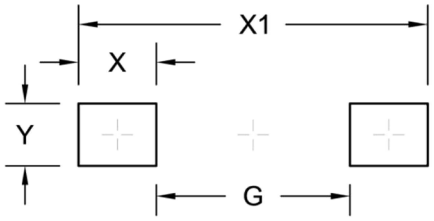
PACKAGE OUTLINE DIMENSION

SOD-323



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	1.150	1.400	0.045	0.055
B	2.300	2.700	0.091	0.106
C	0.250	0.450	0.010	0.018
D	1.600	1.800	0.063	0.071
E	0.800	1.000	0.031	0.039
F	0.050	0.177	0.002	0.007
G	0.475 (Ref.)		0.019 (Ref.)	
H	-	0.100	-	0.004

SUGGEST PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
G	1.52	0.060
X	0.61	0.024
X1	2.74	0.108
Y	0.49	0.019

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