

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

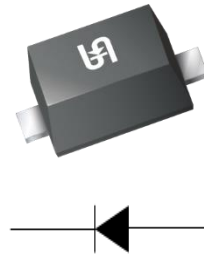
APPLICATIONS

- 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	



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ 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 Pulse Width = 1 ms	4.0	A
		1.0	
Junction temperature range	T_J	-65 to +150	°C
Storage temperature range	T_{STG}	-65 to +150	°C

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	MIN	MAX	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 1.0\text{mA}, T_J = 25^\circ\text{C}$	V_F	-	0.715	V
	$I_F = 10\text{mA}, T_J = 25^\circ\text{C}$		-	0.855	
	$I_F = 50\text{mA}, T_J = 25^\circ\text{C}$		-	1.000	
	$I_F = 150\text{mA}, T_J = 25^\circ\text{C}$		-	1.250	
Reverse voltage	$I_R = 100\mu\text{A}, T_J = 25^\circ\text{C}$	V_R	100	-	V
Reverse current @ rated V_R per diode ⁽²⁾	$V_R = 20\text{V}, T_J = 25^\circ\text{C}$	I_R	-	0.03	μA
	$V_R = 75\text{V}, T_J = 25^\circ\text{C}$		-	1.00	
Junction capacitance	1 MHz, $V_R = 0\text{V}$	C_J	-	1.5	pF
Reverse recovery time	$I_F = 10\text{mA}, I_R = 10\text{mA}, I_{rr} = 0.1 \times I_R$	t_{rr}	-	4.0	ns

Notes:

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

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

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

Fig.1 Typical Forward Characteristics

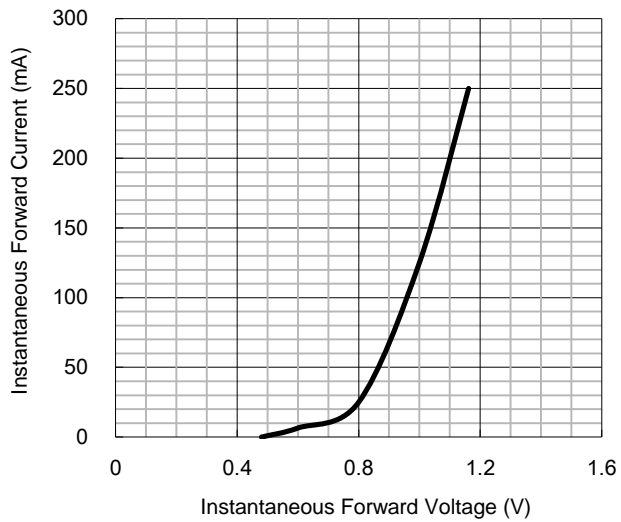


Fig.2 Reverse Current As A Function of Junction Temperature

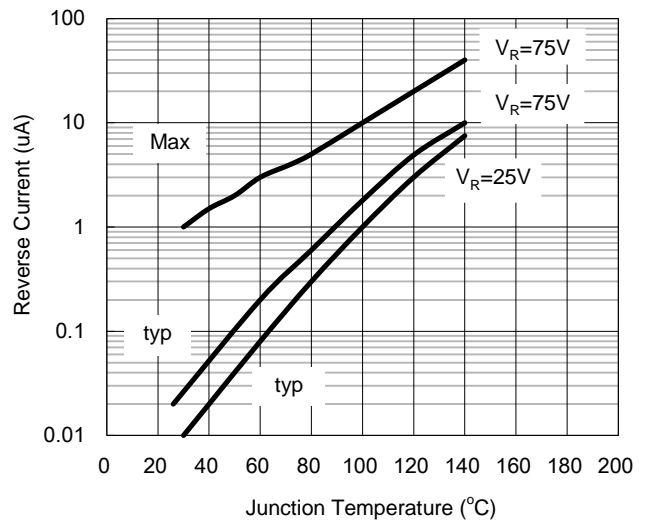


Fig.3 Admissible Power Dissipation Curve

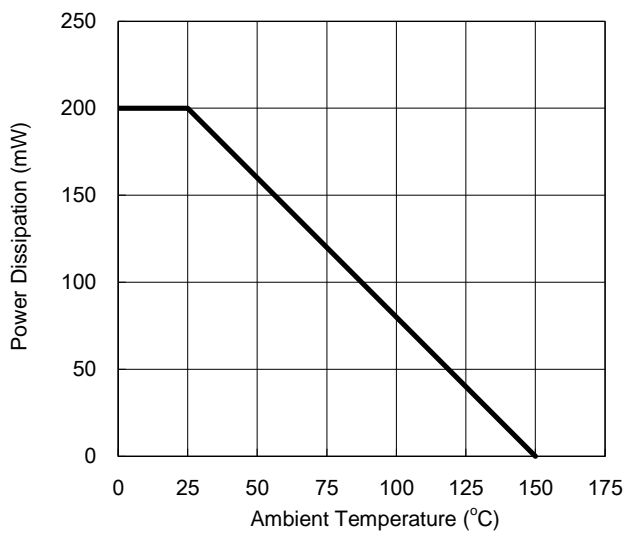
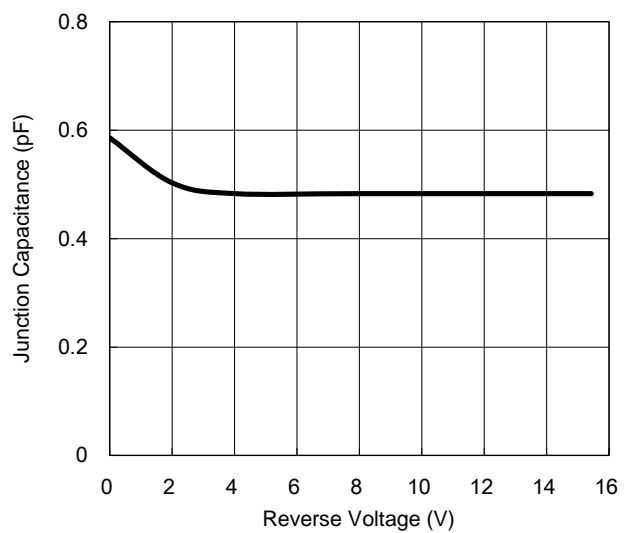
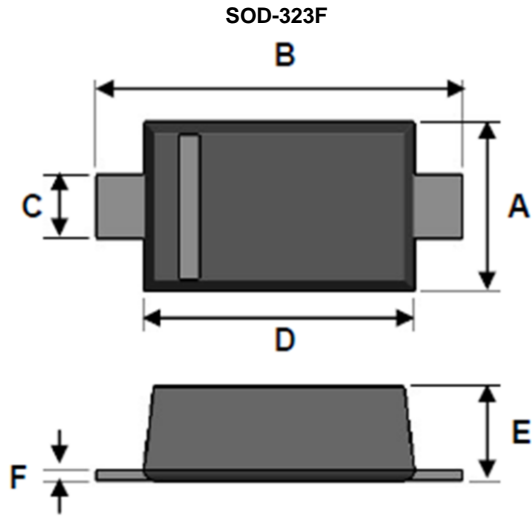


Fig.4 Typical Junction Capacitance

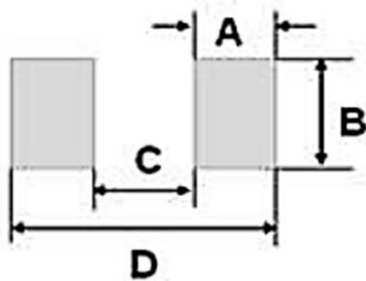


PACKAGE OUTLINE DIMENSION



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

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Taiwan Semiconductor:](#)

[BAS316WS](#) [BAS316WS RR](#) [BAS316WS RRG](#)