200mA, 75V Switching SMD Diode

FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

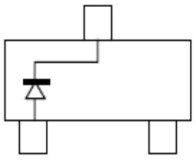
KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	200	mA
V_{RRM}	75	V
V_F at I_F=150mA	1.25	V
T_J Max.	150	°C
Package	SOT-23	
Configuration	Single die	

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- On-board DC/DC converter

MECHANICAL DATA

- Case: SOT-23
- 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
- Weight: 8mg (approximately)



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	BAS116	UNIT
Marking code on the device		JV	
Power dissipation	P_D	225	mW
Repetitive peak reverse voltage	V_{RRM}	75	V
Mean forward current	I_O	200	mA
Non-Repetitive peak forward surge current @ t=1s	I_{FSM}	500	mA
Thermal resistance (Junction to Ambient)(Note1)	$R_{\Theta JA}$	330	°C/W
Junction temperature range	T_J	-55 to +150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

Note1: Valid provided that electrodes are kept at ambient temperature

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

PARAMETER	CONDITIONS	SYMBOL	MIN	MAX	UNIT
Forward voltage	I_F = 1.0mA, T_J = 25°C	V_F	-	0.9	V
	I_F = 10mA, T_J = 25°C		-	1.0	
	I_F = 50mA, T_J = 25°C		-	1.1	
	I_F = 150mA, T_J = 25°C		-	1.25	
Reverse voltage	I_R=100μA, T_J = 25°C	V_R	75	-	V
Reverse current	V_R=75V T_J = 25°C	I_R	-	5	nA
	V_R=75V T_J = 150°C		-	80	
Junction capacitance	f=1 MHz, V_R=0V	C_J	-	2.0	pF
Reverse recovery time	I_F=10mA, I_R=10mA, R_L=100Ω, I_{rr}=1mA	t_{rr}	-	3.0	μs

ORDERING INFORMATION

ORDERING CODE	PACKAGE	PACKING
BAS116 RF	SOT-23	3K / 7" Reel
BAS116 RFG	SOT-23	3K / 7" Reel

Note: “G” means green compound (halogen free)

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Typical Forward Characteristics

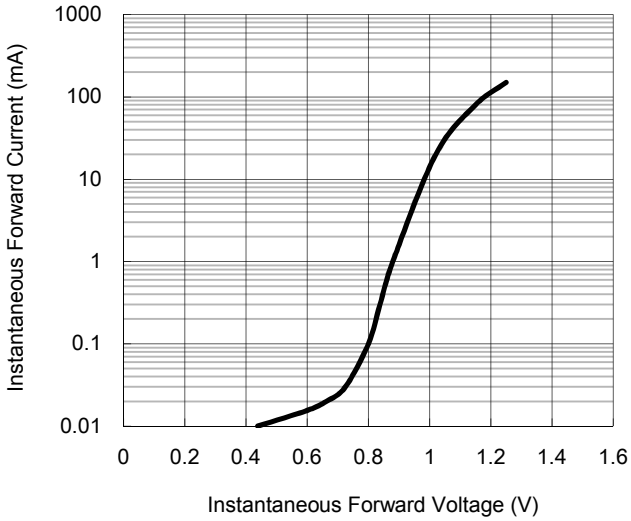


Fig.2 Reverse Current vs. Reverse Voltage

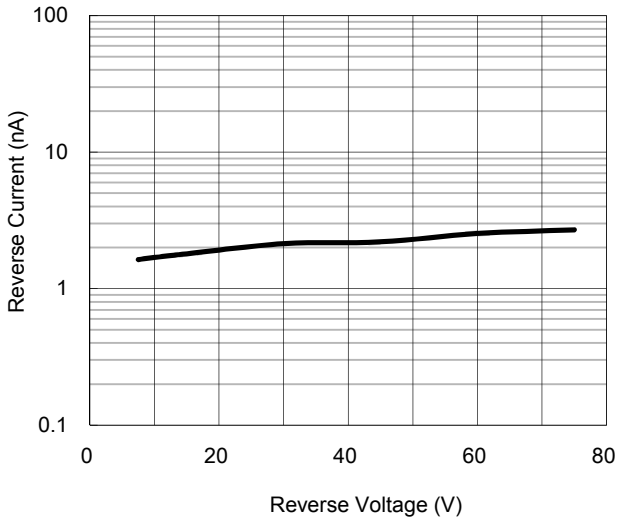


Fig.3 Admissible Power Dissipation Curve

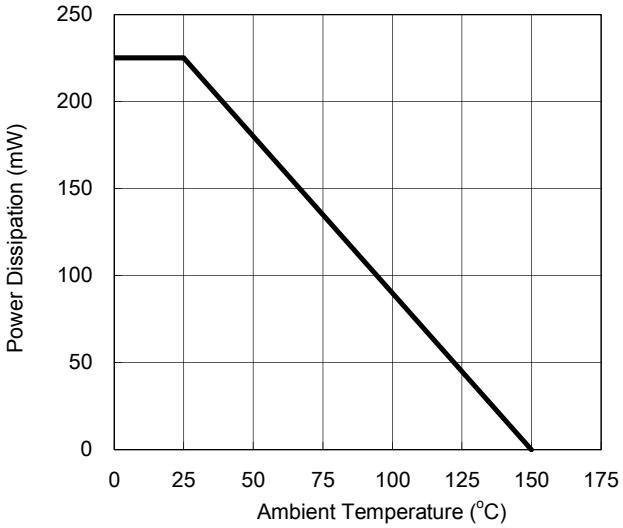
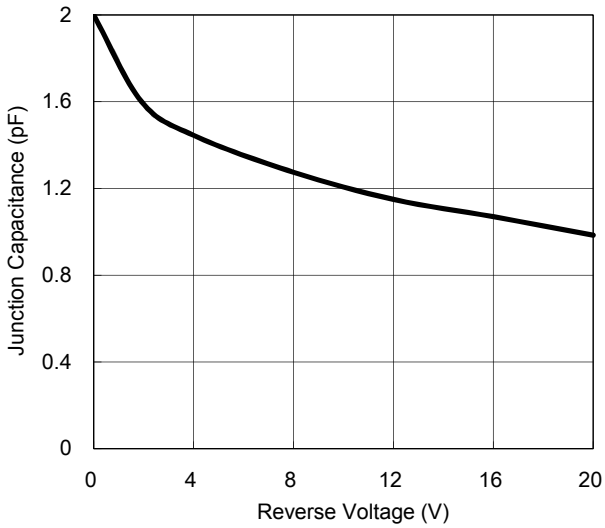
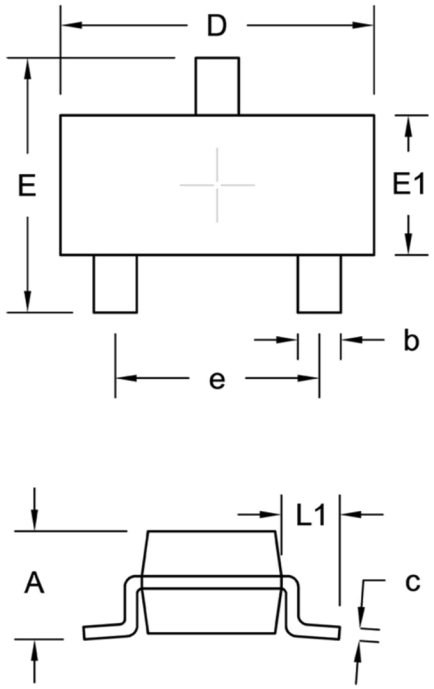


Fig.4 Typical Junction Capacitance



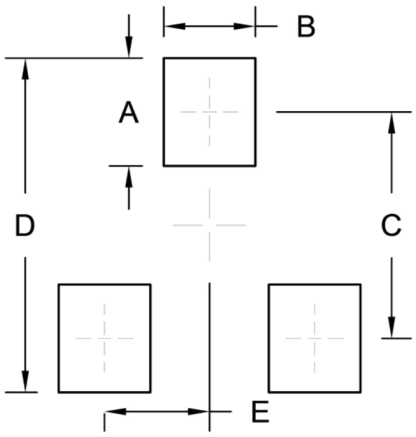
PACKAGE OUTLINE DIMENSION

SOT-23



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	0.89	1.12	0.035	0.044
b	0.30	0.50	0.012	0.020
c	0.08	0.20	0.003	0.008
D	2.80	3.04	0.110	0.120
E	2.10	2.64	0.083	0.104
E1	1.20	1.40	0.047	0.055
e	1.90 BSC		0.075 BSC	
L1	0.54 REF.		0.021 REF.	

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.00	0.039
B	0.85	0.033
C	2.10	0.083
D	3.10	0.122
E	0.98	0.039

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.

Purchasers are solely responsible for the choice, selection, and use of TSC products and TSC assumes no liability for application assistance or the design of Purchasers' products.

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.