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

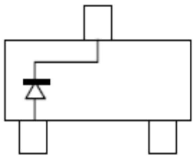
KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	200	mA
V_{RRM}	75	V
V_F at I_F=150mA	1.25	V
T_J Max.	150	°C
Package	SOT-23	
Configuration	Single die	

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

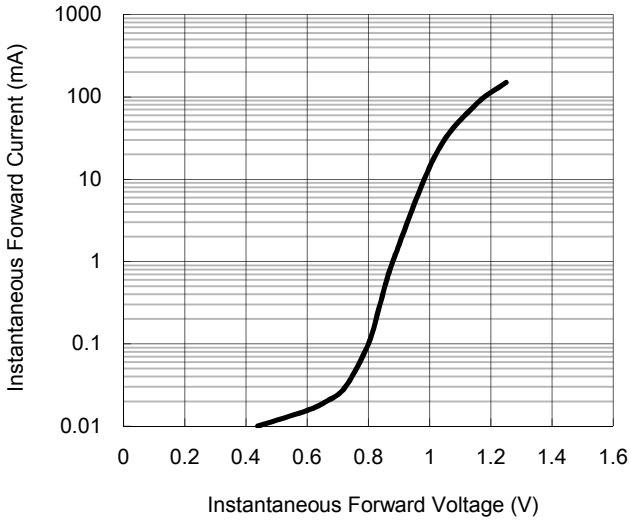


Fig.2 Reverse Current vs. Reverse Voltage

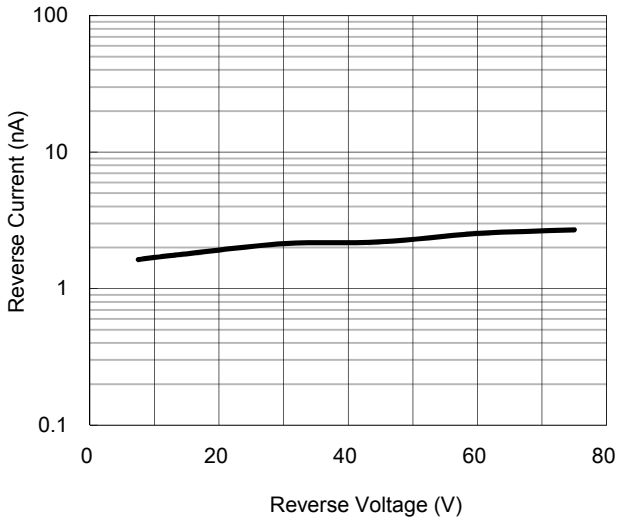


Fig.3 Admissible Power Dissipation Curve

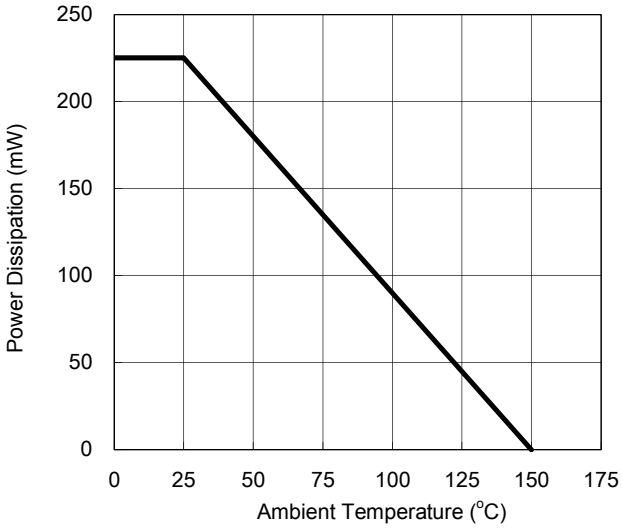
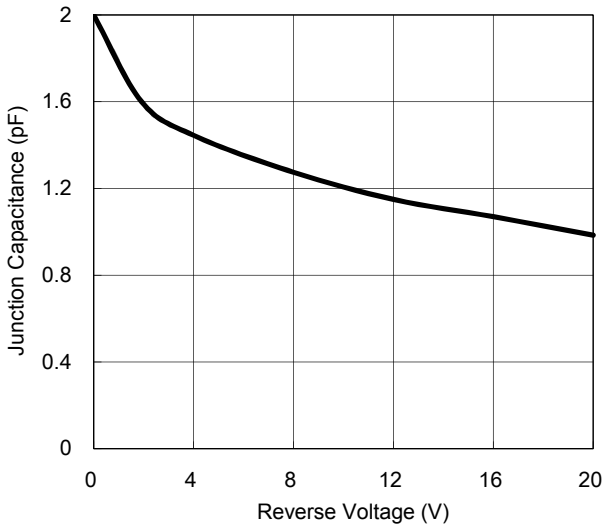
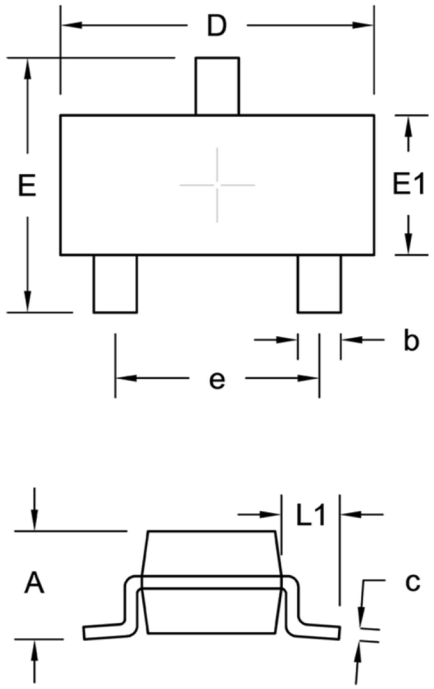


Fig.4 Typical Junction Capacitance



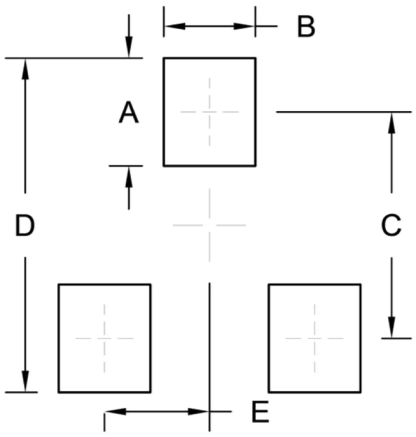
PACKAGE OUTLINE DIMENSION

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

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