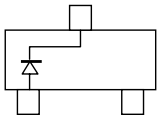
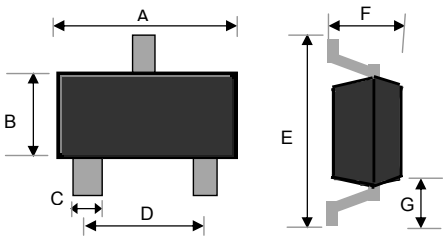
TAIWAN SEMICONDUCTOR

BAS116
225mW SMD Switching Diode

Small Signal Diode



SOT-23



Dimensions	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.50	1.70	0.059	0.067
B	3.55	3.85	0.140	0.152
C	0.45	0.65	0.018	0.026
D	2.60	2.80	0.102	0.11
E	1.05	1.25	0.041	0.049
F	0.08	0.15	0.003	0.006
G	0.02 REF		0.50 REF	

Features

- ✧Low power loss, high current capability, low V_F
- ✧Surface device type mounting
- ✧Moisture sensitivity level 1
- ✧Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- ✧Pb free version and RoHS compliant
- ✧Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code

Mechanical Data

- ✧Case : SOT- 23 small outline plastic package
- ✧Terminal: Matte tin plated, lead free., solderable per MIL-STD-202, Method 208 guaranteed
- ✧High temperature soldering guaranteed: 260°C/10s
- ✧Weight : 0.008gram (approximately)

Ordering Information

Part No.	Package	Packing
BAS116 RF	SOT-23	3Kpcs/7" Reel

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Maximum Ratings

Type Number	Symbol	Value	Units
Power Dissipation	P_D	225	mW
Repetitive Peak Reverse Voltage	V_{RRM}	75	V
Mean Forward Current	Io	200	mA
Non-Repetitive Peak Forward Surge Current @ t= 1.0s	I_{FSM}	500	mA
Thermal Resistance (Junction to Ambient) (Note 1)	RθJA	330	°C/W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to + 150	°C

Electrical Characteristics

Type Number			Symbol	Min	Max	Units
Reverse Breakdown Voltage	I_R=	100μA	$V_{(BR)}$	75	-	V
Forward Voltage	I_F=	1.0mA	V_F	-	0.9	V
	I_F=	10mA		-	1.0	
	I_F=	50mA		-	1.1	
	I_F=	150mA		-	1.25	
Reverse Leakage Current	V_R=	75V	I_R	-	5	nA
Junction Capacitance	V_R=0, f=1.0MHz		C_J	-	2.0	pF
Reverse Recovery Time (Note 2)			Trr	-	3.0	ns

Notes:1. Valid provided that electrodes are kept at ambient temperature

Notes:2. Reverse Recovery Test Conditions: I_F=10mA, I_R=10mA, R_L=100Ω, I_{RR}=1mA

Small Signal Diode

Rating and Sharacteristic Curves

FIG 1 Typical Forward Characteristics

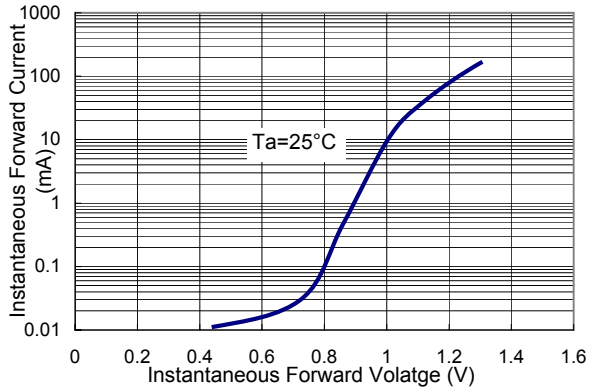


FIG 2 Reverse Current vs Reverse Voltage

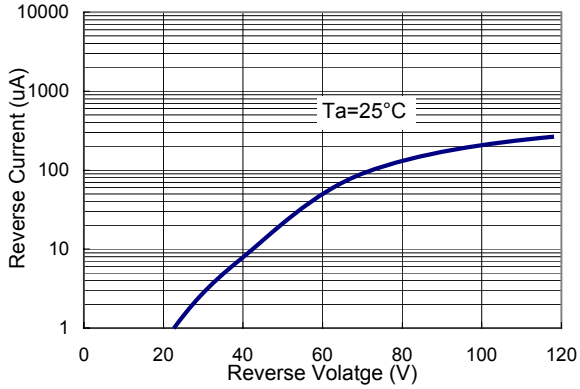


FIG 3 Admissible Power Dissipation Curve

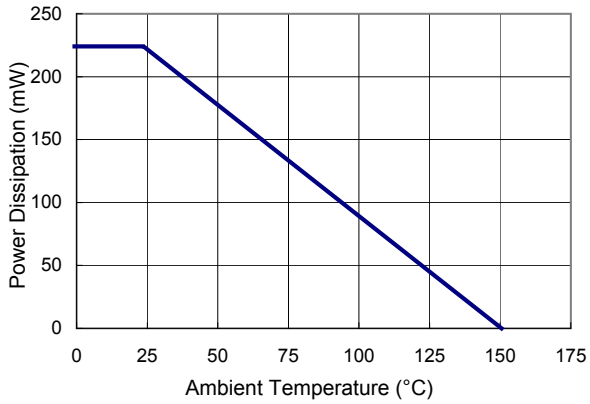


FIG 4 Typical Junction Capacitance