GOOD-ARK
SEMICONDUCTOR

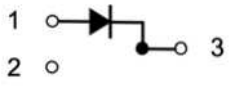
BAS21
Switching Diode

Features

- Switching speed: Max. 50ns
- General applications
- Repetitive peak forward current: Max. 625 mA.



SOT-23



Schematic Diagram

Description

The BAS21 is a general purpose diode fabricated in planar technology and encapsulated in a small SOT-23 plastic SMD package.

Applications

- General purpose switching

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	250	V
Working Peak Reverse Voltage	V_{RWM}		V
DC Blocking Voltage	V_R		V
Forward Continuous Current	I_F	0.4	A
Average Rectified Output Current	I_O	0.2	A
Power Dissipation	P_D	225	mW
Non-Repetitive Peak Forward Surge Current @ t=8.3ms	I_{FSM}	2	A
Non-Repetitive Peak Forward Surge Current @ t=1ms		2.5	A
Repetitive Peak Forward Surge Current	I_{FRM}	0.625	A
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	555	°C/W
Operating Junction Temperature Range	T_J	-55 To +150	°C
Storage Temperature Range	T_{STG}	-55 To +150	°C

Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)}$	I_R=100μA	250	-	V
Forward Voltage	V_{FM}	I_F=100mA	-	1	V
		I_F=200mA	-	1.25	V
Reverse Leakage Current	I_R	V_R=200V	-	0.1	uA
Diode Capacitance	C_D	V_R=0V, f=1MHz	-	5	pF
Reverse Recovery Time	t_{rr}	I_F=I_R=30mA, R_L=100Ω I_{RR}=0.1*I_R	-	50	ns

Typical Electrical Characteristic Curves

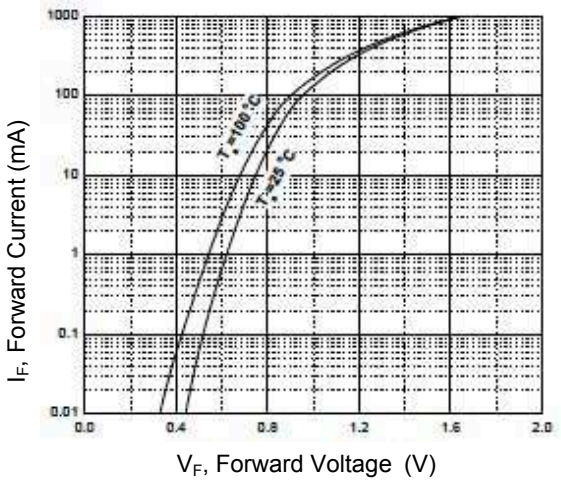


Figure 1. Forward Characteristics

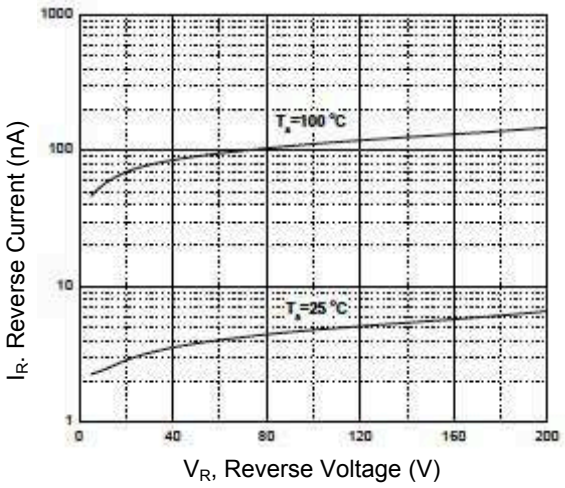


Figure 2. Reverse Characteristics

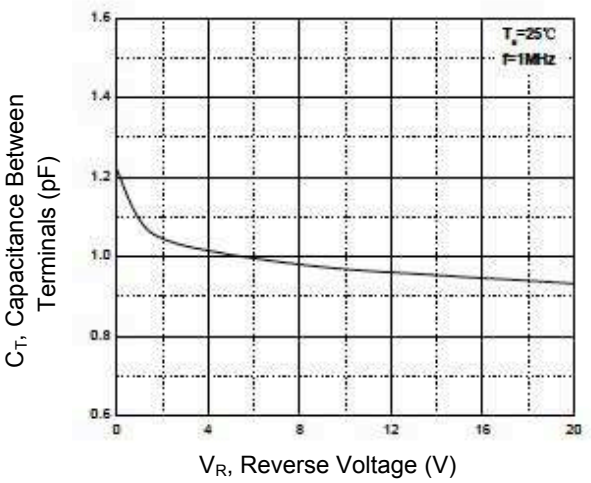


Figure 3. Capacitance Characteristics

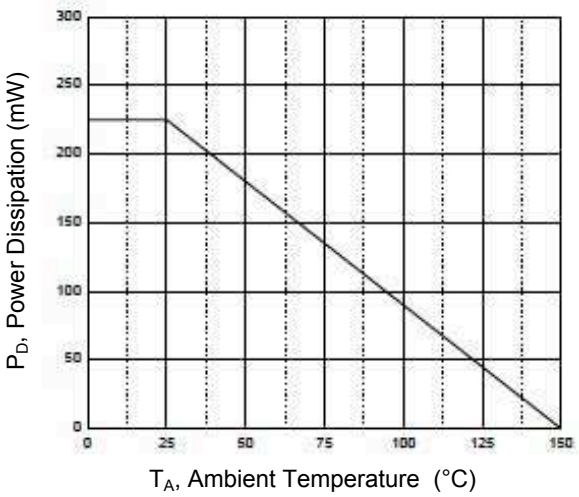
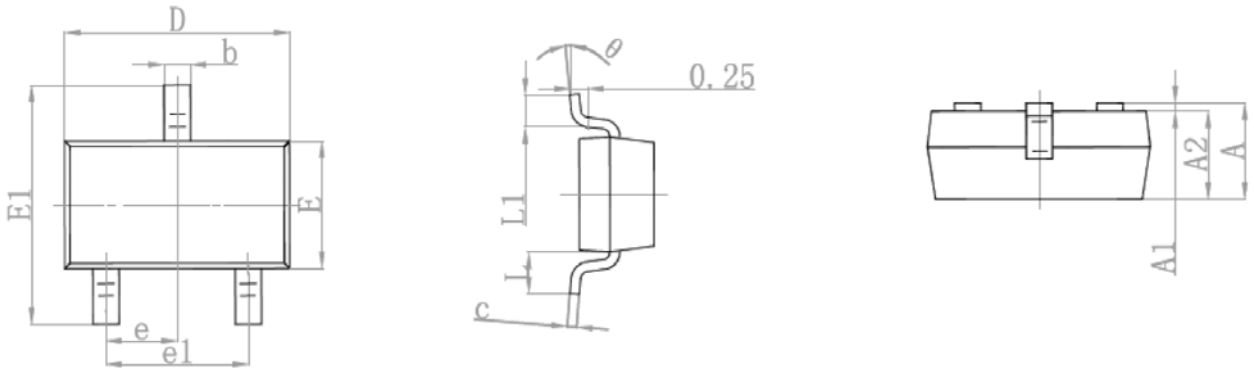


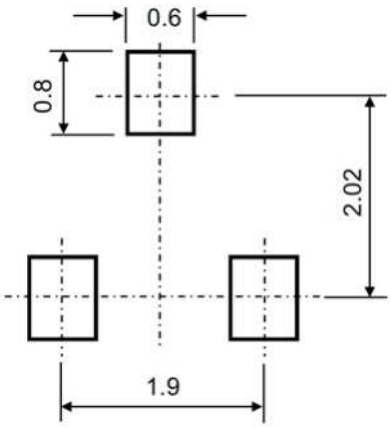
Figure 4. Power Derating Curve

Package Outline Dimensions (SOT-23)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

Recommended Pad Layout



Note:
1. Controlling dimension: in millimeters
2. General tolerance: ±0.05mm
3. The pad layout is for reference purposes only

Order Information

Device	Package	Marking	Packaging	SPQ
BAS21	SOT-23	JS	Tape & Reel	3,000pcs / Reel