

SOT-23 Fast Switching Diodes

Features

- Fast Switching Device (TRR <50nS)
- Power Dissipation of 225mW
- High Stability and High Reliability
- Low reverse leakage
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Applications

- For General Purpose Switching Applications

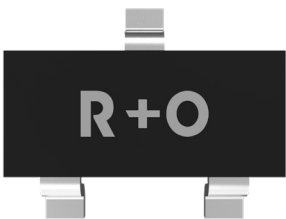
Mechanical Data

- Case: SOT-23
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

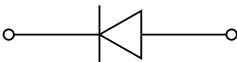
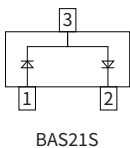
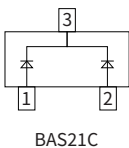
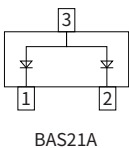
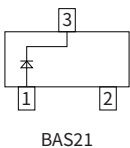
Function Diagram

Reverse Voltage
250 V
Forward Current
0.2 Ampere

SOT-23



Marking:
BAS21:JS
BAS21A:JS2
BAS21C:JS3
BAS21S:JS4



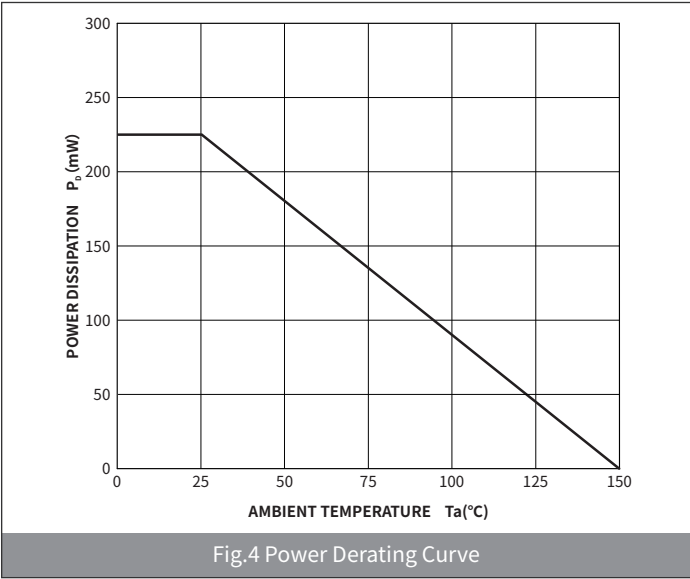
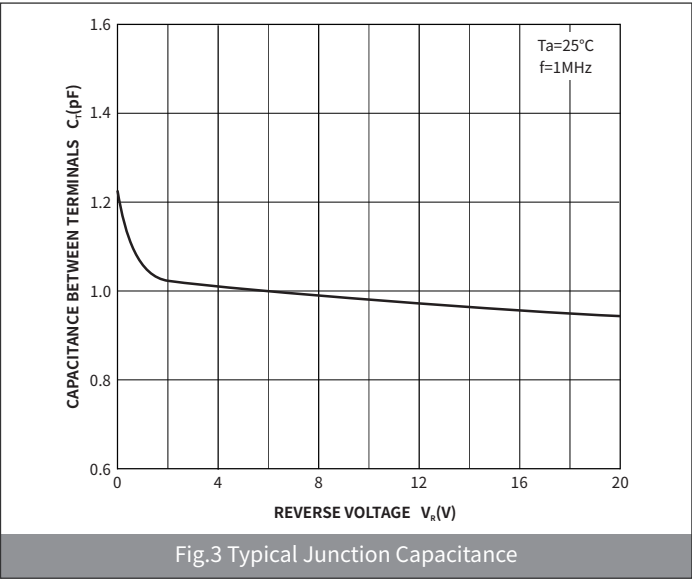
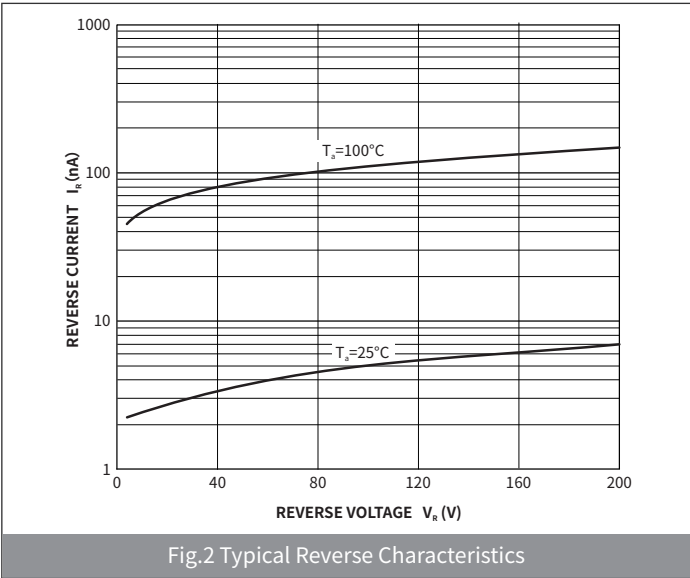
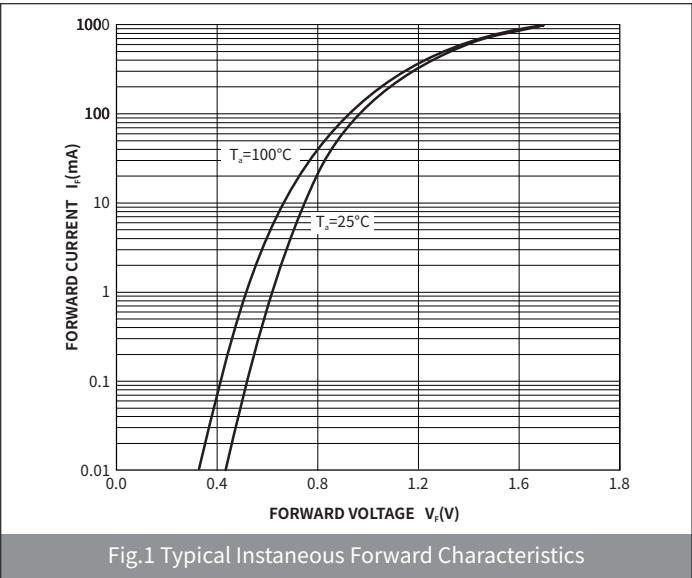
Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Maximum repetitive peak reverse voltage	V_{RRM}	V	250
Maximum RMS Voltage	V_{RMS}	V	200
Reverse Breakdown voltage @ $I_R=100\mu A$	$V_{(BR)R}$	V	250
Maximum Average Forward Rectified Current	$I_{F(AV)}$	mA	200
Forward continuous current	I_{FM}	mA	400
Repetitive peak forward current	I_{FRM}	mA	625
Non-Repetitive Peak forward surge current @ $t_p=1.0ms$	I_{FSM}	A	2.5
Power Dissipation	P_d	mW	225
Storage temperature	T_{stg}	°C	-55 ~+150
Junction temperature	T_j	°C	-55 ~+150
Typical thermal resistance	$R_{\theta J-A}$	°C /W	555

● Electrical Characteristics (Ta=25°C Unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	Min	Type	Max
Maximum instantaneous forward voltage	$I_F=100\text{mA}$	V_{F1}	V	—	—	1.0
	$I_F=200\text{mA}$	V_{F2}		—	—	1.25
Reverse Leakage Current	$V_R=200\text{V}$	I_R	μA	—	—	0.1
Total capacitance	$V_R=0\text{V}, f=1\text{MHz}$	C_T	pF	—	—	5.0
Maximum reverse recovery time	$I_F=I_R=30\text{mA}, I_{rr}=0.1\times I_R, R_L=100\Omega$	T_{rr}	ns	—	—	5.0

● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



BAS21 THRU BAS21S

FAST SWITCHING DIODES

● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-23	R1	0.008	3000	45000	180000	7"

● Package Outline Dimensions (SOT-23)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.15	0.035	0.045
A1	-	0.10	-	0.004
A2	0.90	1.05	0.035	0.041
b	0.30	0.50	0.012	0.020
c	0.10	0.20	0.004	0.008
D	2.80	3.00	0.110	0.118
E	1.20	1.40	0.047	0.055
E1	2.25	2.55	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.80	2.00	0.071	0.079
L	0.550REF		0.022REF	
L1	0.30	0.50	0.012	0.020
θ	-	8°	-	8°

● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.75	0.85	0.030	0.033
K	0.85	0.95	0.033	0.037
M	1.95	2.05	0.077	0.081
N	1.85	1.95	0.073	0.077