

Surface Mount Switching Diode

 Lead(Pb)-Free

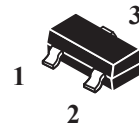
Features:

- *Fast Switching Speed
- *Surface Mount Package Ideally Suited for Automatic Insertion
- *High Conductance
- *For General Purpose Switching Applications

Mechanical Data:

- *Case: SOT-23 Molded Plastic
- *Terminals: Solderable Per MIL-STD-202, Method 208
- *Polarity: See Equivalent Circuit Diagram
- *Weight: 0.008grams(approx)

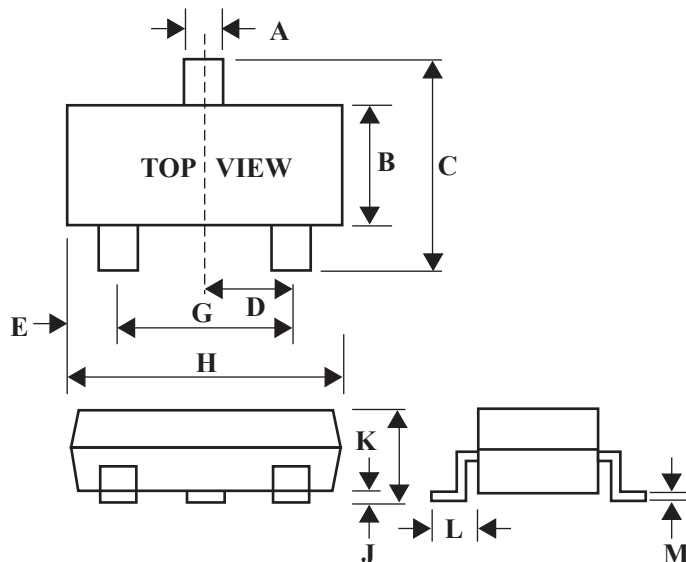
SWITCHING DIODE
200mAMPERS
120-250VOLTS



SOT-23

SOT-23 Outline Dimensions

Unit:mm



Dim	Min	Max
A	0.35	0.51
B	1.19	1.40
C	2.10	3.00
D	0.85	1.05
E	0.46	1.00
G	1.70	2.10
H	2.70	3.10
J	0.01	0.13
K	0.89	1.10
L	0.30	0.61
M	0.076	0.25

Maximum Ratings ($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

Characteristic	Symbol	BAS19	BAS20	BAS21	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	120	200	250	Volts
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	100	150	200	Volts
Forward Continuous Current ⁽¹⁾	I_{FM}	400			mA
Average Rectified Output Current ⁽¹⁾	I_o	200			mA
Non-Repetitive Peak Forward Surge Current @ $t=1.0\mu\text{s}$ @ $t=1.0\text{s}$	I_{FSM}	2.5 0.5			A
Power Dissipation	P_d	250			mW
Thermal Resistance Junction to Ambient Air ⁽¹⁾	$R_{\theta JA}$	500			K/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150			$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
Forward Voltage $I_F=100\text{mA}$ $I_F=200\text{mA}$	V_F	-	1.0 1.25	Volts
Reverse Leakage @Rated DC Blocking Voltage	I_R	-	100	nA _{dc}
Total Capacitance ($V_R=1.0\text{V}$, $f=1.0\text{MHz}$)	C_j	-	5.0	Pf
Reverse Recovery Time $I_F=I_R=30\text{mA}$ $I_{rr}=0.1*I_R, R_L=100\Omega$	t_{rr}	-	50	nS

NOTE:

1. Valid provided that terminals are kept at ambient temperature.

Device Marking

Item	Marking		Equivalent Circuit diagram
BAS19	JP	JS	
BAS20	JR		
BAS21	JS		

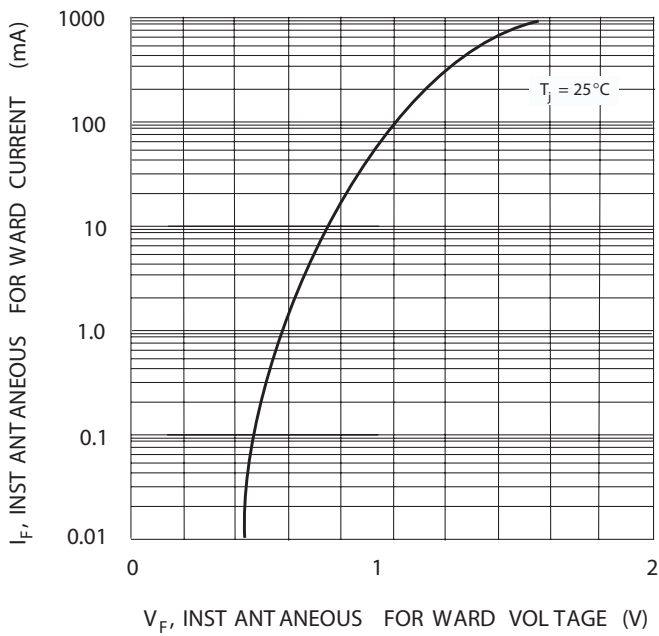


Fig. 1 Forward Characteristics

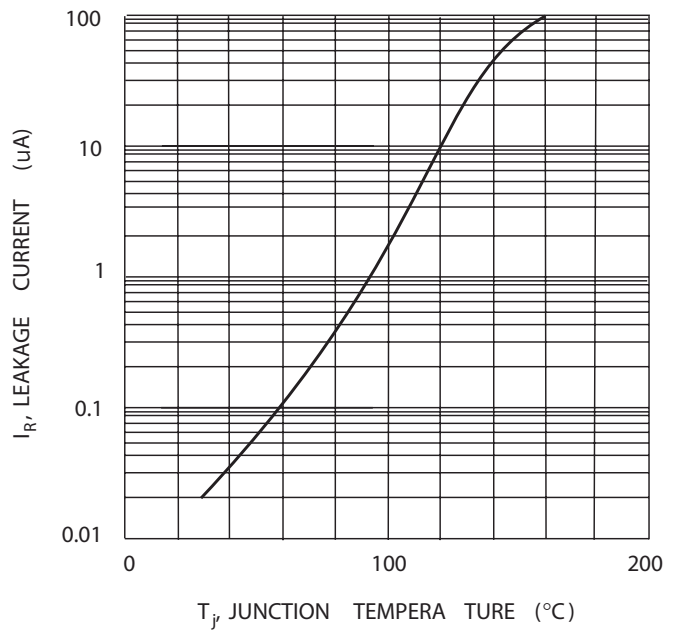


Fig. 2 Leakage Current vs Junction Temperature