

### Surface Mount Switching Diode

\* "G" Lead(Pb)-Free

#### Features:

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

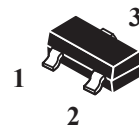
#### Mechanical Data:

- \*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**

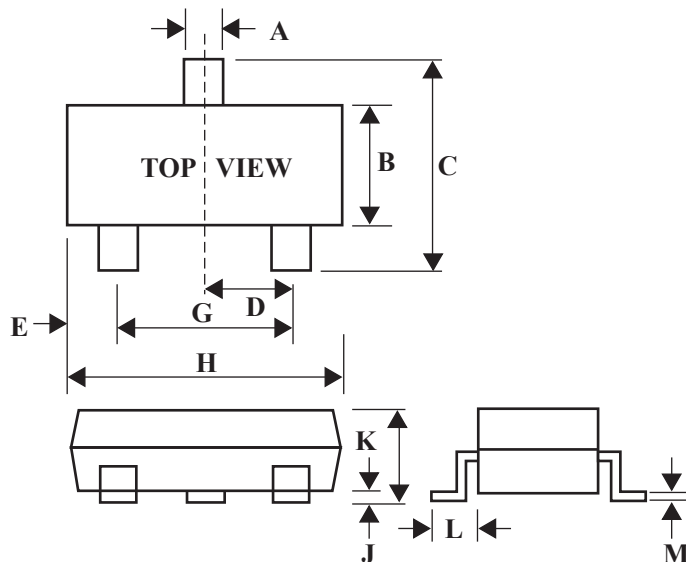
**120-250VOLTS**



**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 <sup>(1)</sup>	$I_{FM}$	400			mA
Average Rectified Output Current <sup>(1)</sup>	$I_o$	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 <sup>(1)</sup>	$R_{\theta JA}$	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 <sub>dc</sub>
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		

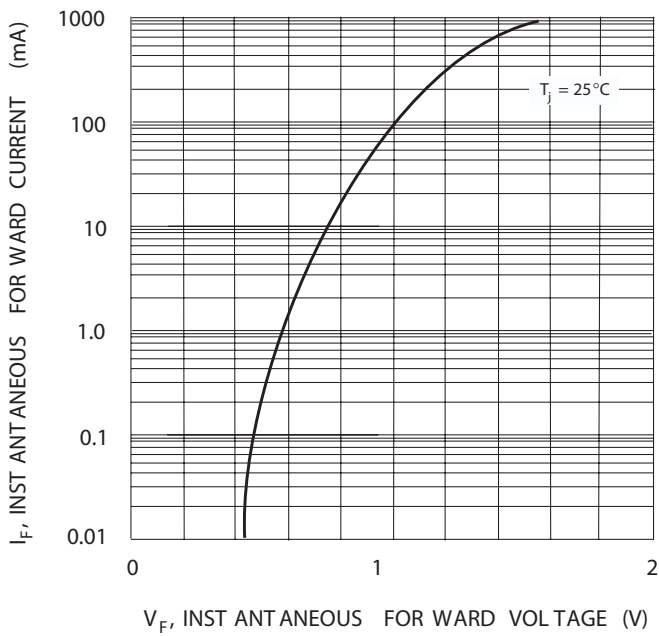


Fig. 1 Forward Characteristics

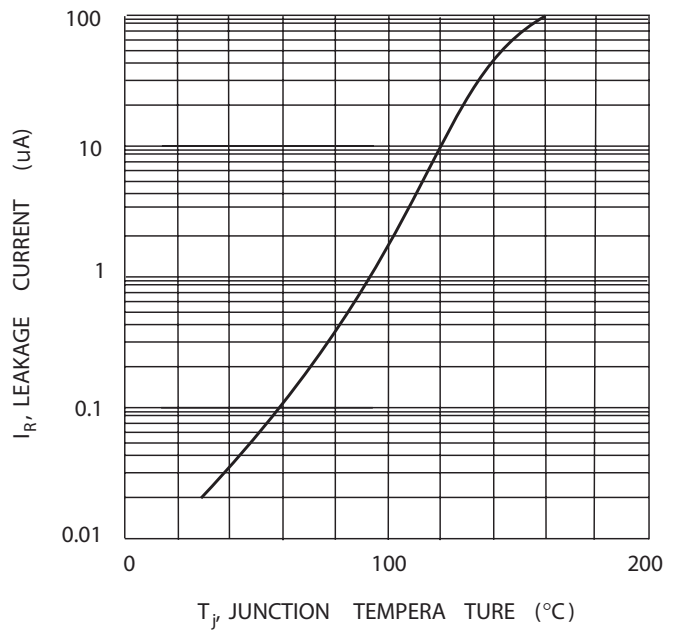


Fig. 2 Leakage Current vs Junction Temperature