

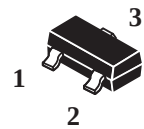
Surface Mount Switching Diode

 Lead(Pb)-Free

Features:

* We declare that the material of product compliance with RoHS requirements.

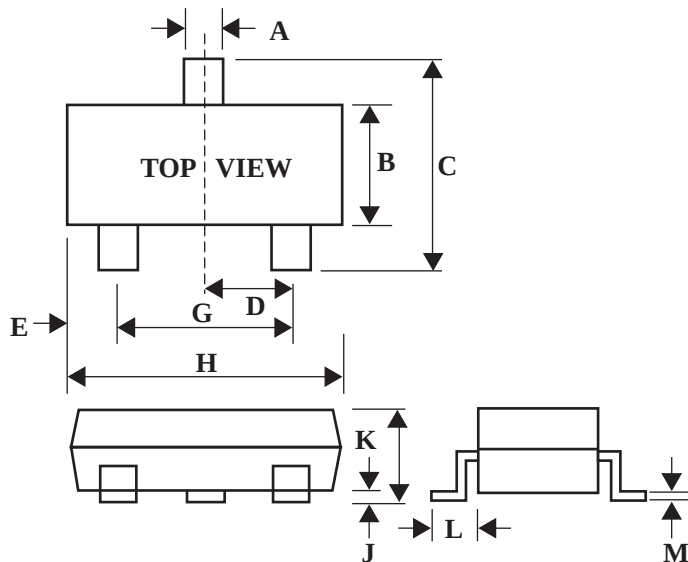
SWITCHING DIODE
200mAMPERS
200-250VOLTS



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°C Unless otherwise noted)

Characteristic	Symbol	BAS20	BAS21	Unit
Continuous Reverse Voltage	V _R	200	250	V
Peak Forward Current	I _F	200		mA
Peak Forward Surge Current	I _{FSM}	625		mA
Total Device Dissipation FR-5 Board, (1) T _A = 25°C Derate above 25°C	P _d	200	225	mW
Total Device Dissipation Alumina Substrate, (2) T _A = 25°C Derate above 25°C		1.57	1.8	mW/°C
			300	mW
			2.4	mW/°C
Thermal Resistance Junction to Ambient	R _{θJA}		417	°C/W
Operating and Storage Temperature Range	T _j ,T _{STG}	-55 to +150		°C

NOTE:

1. FR-5 = 1.0 x 0.75 x 0.062 in.

2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina

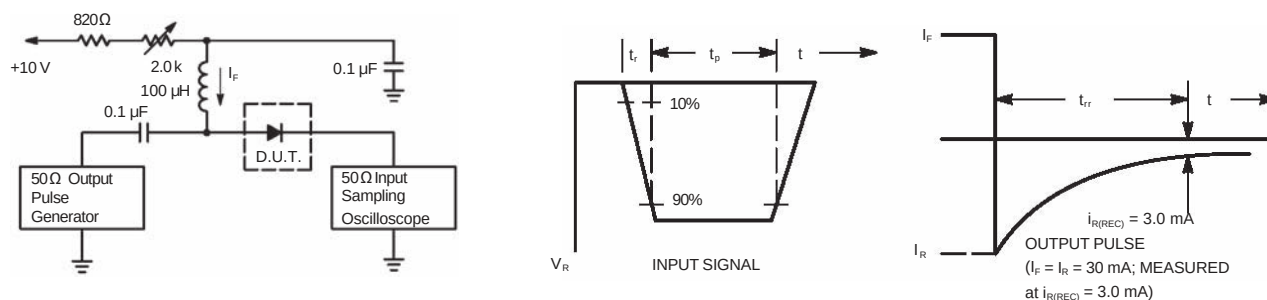
Electrical Characteristics (T_A=25°C Unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
Forward Voltage I _F =100mA I _F =200mA	V _F	-	1.0 1.25	V
Reverse Voltage Leakage Current @V _R = 200 V BAS20 BAS21 @V _R = 200 V, T _J = 150°C)	I _R	-	1.0 0.1 100	μA
Reverse Breakdown Voltage @I _{BR} = 100 μAdc BAS20 BAS21	V _{BR}	200 250	-	V
Total Capacitance @V _R = 0, f=1.0MHz	C _j	-	5.0	Pf
Reverse Recovery Time @I _F = I _R = 30mA ,RL=100Ω	trr		50	nS

Device Marking

Item	Marking	Equivalent Circuit diagram
BAS20	JR	
BAS21	JS	

BAS20/BAS21



- Notes:**
1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 30 mA.
 2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 30 mA.
 3. $t_p \gg t_r$

Figure 1. Recovery Time Equivalent Test Circuit

BAS20

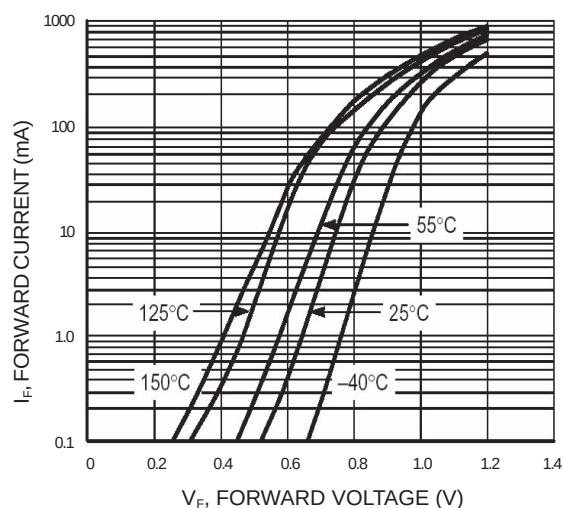


Figure 2. Forward Current

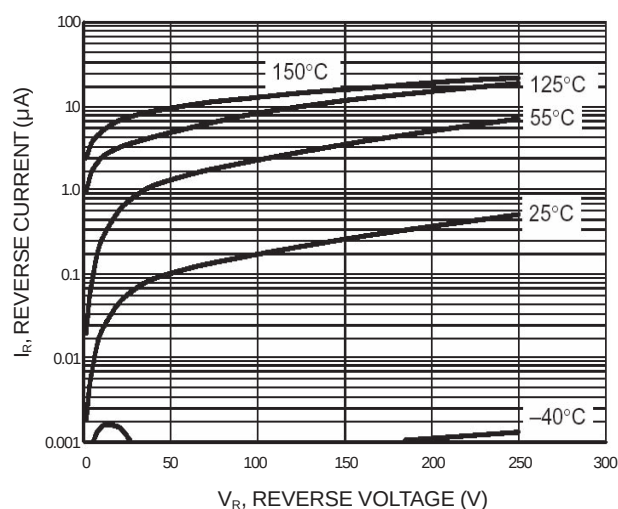


Figure 3. Leakage Current

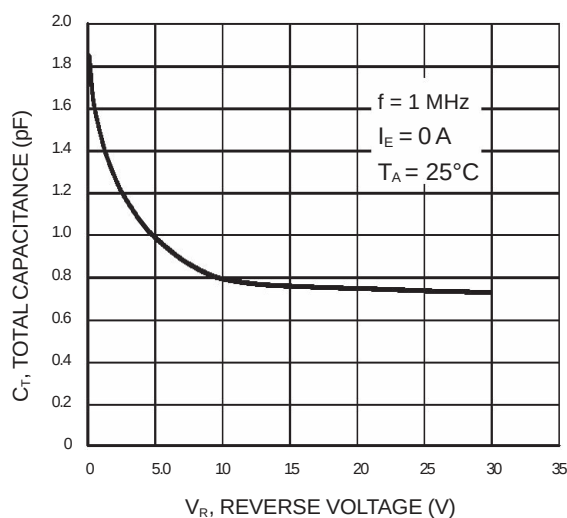


Figure 4. Total Capacitance

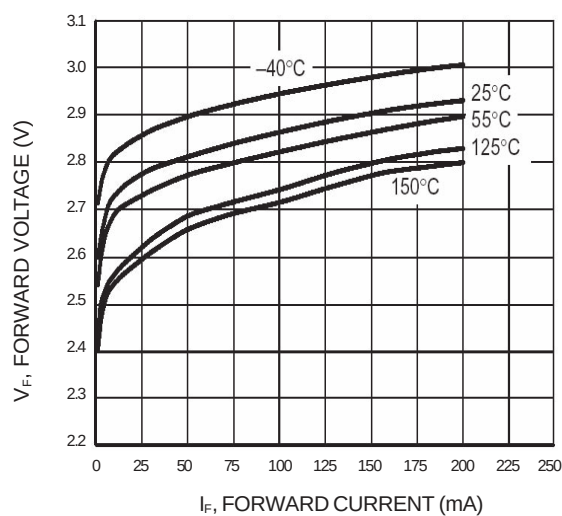


Figure 5. Forward Voltage