

# Surface Mount Switching Diode

## BAS21

Voltage: 250 Volts  
Current: 0.2Amp

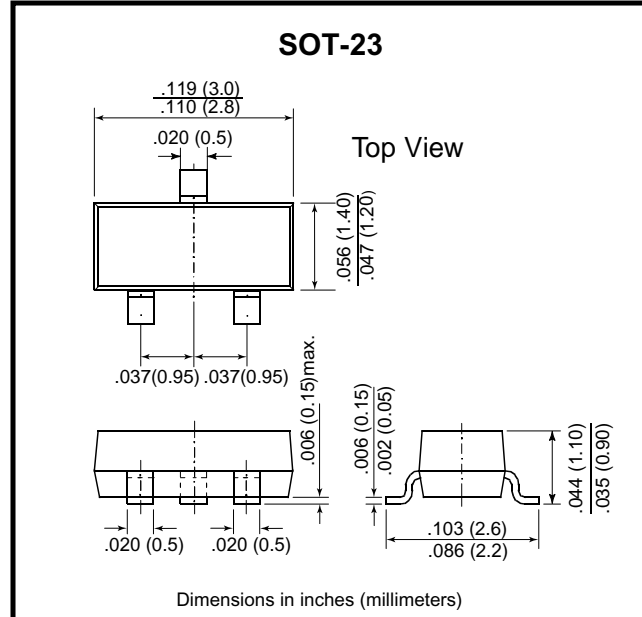


### Feature

High Voltage Switching Diode  
Surface Mount Package Ideally Suited for  
Automatic Insertion  
For General Purpose Switching  
Applications

### Mechanical Data

Case: SOT -23, Plastic  
Terminals : Solderable per NIL-STD -202,  
Method 208  
Approx. Weight: 0.008 gram



### Maximum Ratings

Rating	Symbol	Value	Units
Continuous Reverse Voltage	$V_R$	250	$V_{DC}$
Peak Forward Current	$I_F$	200.0	mAdc
Peak Surge Forward Current	$I_{FSM}(\text{surge})$	625	mAdc

### Thermal Characteristics

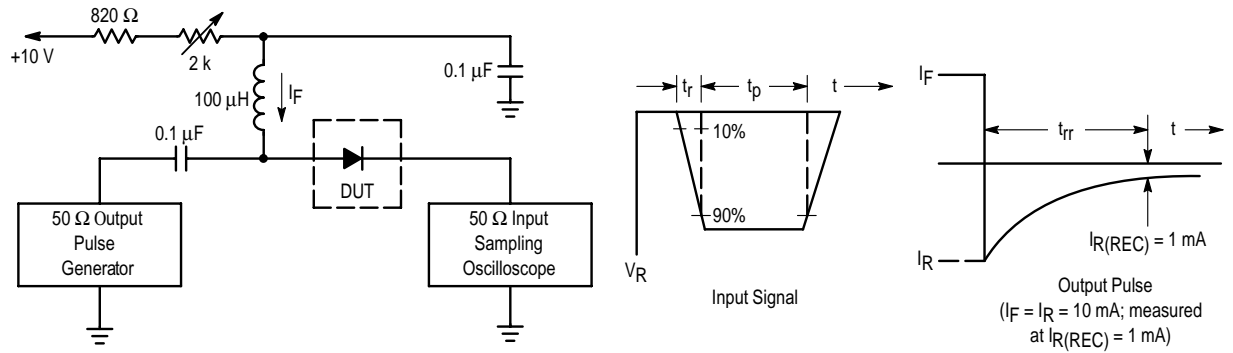
Characteristic	Symbol	Max	Units
Total Device Dissipation FR-5 Board(1) $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	225.0 1.8	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556.0	$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate,(2) $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	300 2.4	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature	$T_J, T_{stg}$	-55 to +150	$^\circ\text{C}$

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

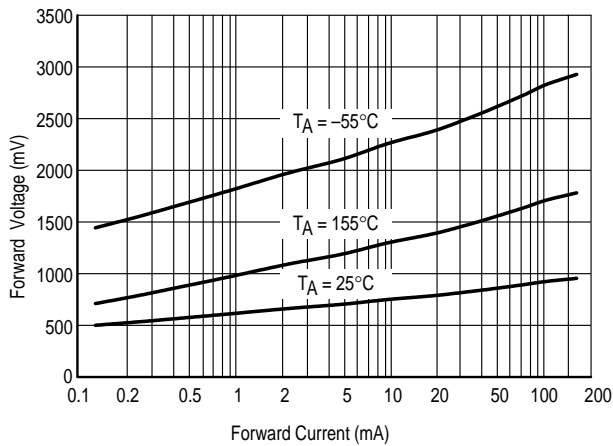
Characteristic	Symbol	Min	Max	Units
Reverse Voltage Leakage Current $V_R = 200 \text{ Vdc}$ $V_R = 200 \text{ Vdc}, T_J = 150^\circ\text{C}$	$I_R$	- -	1.0 100	$\mu\text{Adc}$
Reverse Breakdown Voltage (BR = 100 Adc)	$V(\text{BR})$	250	-	Vdc
Forward Voltage $F = 100 \text{ mAdc}$ $F = 200 \text{ mAdc}$	$V_F$		1000 1250	mV
Diode Capacitance ( $V_R = 0, f = 1.0 \text{ MHz}$ )	$C_D$		5	pF
Reverse Recovery Time ( $I_F = I_R = 30 \text{ mAdc}, R_L = 100$ )	$T_{rr}$		50	nS

1.FR-5 = 1.0 X 0.75X 0.062 in. 2.Alumina = 0.4X 0.3X 0.024 in. 99.5% alumina.

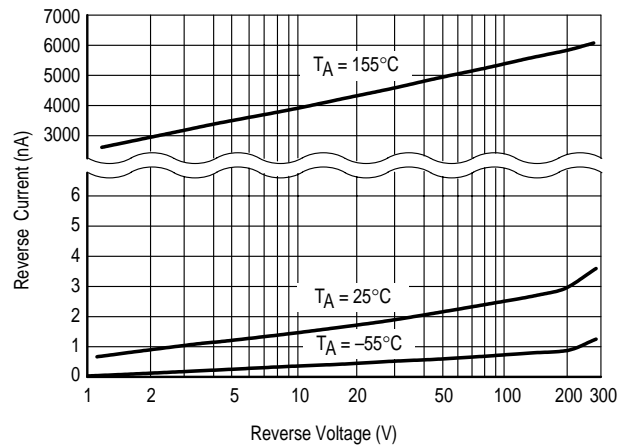
## RATING AND CHARACTERISTIC CURVES (BAS21)



**Figure 1. Recovery Time Equivalent Test Circuit**



**Figure 2. Forward Voltage**



**Figure 3. Reverse Leakage**