

# BAS21SLT1

Preferred Device

## Dual Series High Voltage Switching Diode

### Features

- Moisture Sensitivity Level: 1
- ESD Rating – Human Body Model: Class 1  
– Machine Model: Class B
- Pb-Free Package is Available

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	$V_R$	250	Vdc
Repetitive Peak Reverse Voltage	$V_{RRM}$	250	Vdc
Peak Forward Current	$I_F$	225	mAdc
Peak Forward Surge Current	$I_{FM}(\text{surge})$	625	mAdc

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (Note 1) $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	225	mW
		1.8	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate, (Note 2) $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	300	mW
		2.4	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to +150	$^\circ\text{C}$

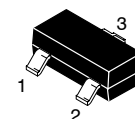
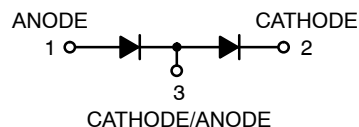
- FR-5 =  $1.0 \times 0.75 \times 0.062$  in.
- Alumina =  $0.4 \times 0.3 \times 0.024$  in. 99.5% alumina.

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.



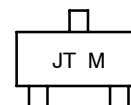
ON Semiconductor®

<http://onsemi.com>



SOT-23  
CASE 318  
STYLE 11

### MARKING DIAGRAM



JT = Device Code  
M = Date Code

### ORDERING INFORMATION

Device	Package	Shipping†
BAS21SLT1	SOT-23	3000/Tape & Reel
BAS21SLT1G	SOT-23 (Pb-Free)	3000/Tape & Reel

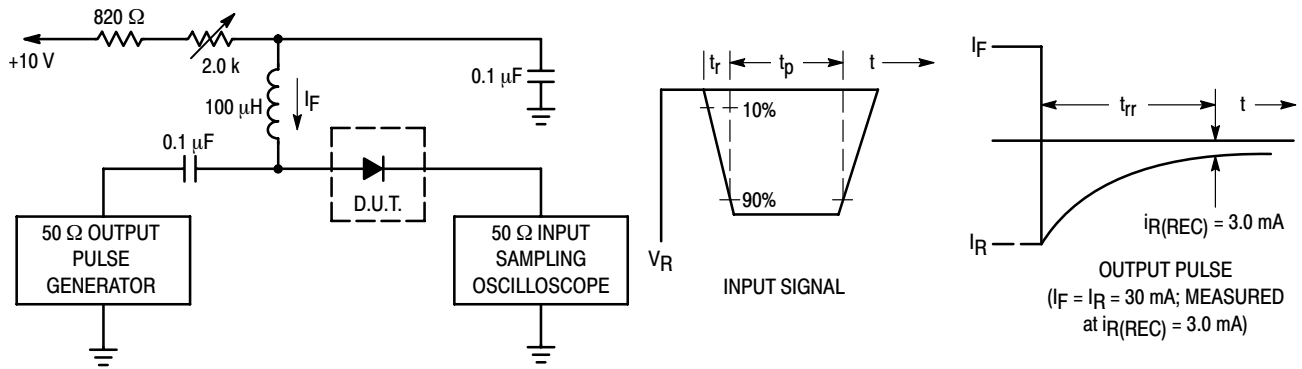
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

Preferred devices are recommended choices for future use and best overall value.

# BAS21SLT1

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

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Reverse Voltage Leakage Current ( $V_R = 200\text{ Vdc}$ ) ( $V_R = 200\text{ Vdc}$ , $T_J = 150^\circ\text{C}$ )	$I_R$	-	0.1 100	$\mu\text{A}$ $\text{dc}$
Reverse Breakdown Voltage ( $I_{BR} = 100\ \mu\text{A}$ )	$V_{(BR)}$	250	-	Vdc
Forward Voltage ( $I_F = 100\ \text{mA}$ ) ( $I_F = 200\ \text{mA}$ )	$V_F$	-	1000 1250	mV
Diode Capacitance ( $V_R = 0$ , $f = 1.0\ \text{MHz}$ )	$C_D$	-	5.0	pF
Reverse Recovery Time ( $I_F = I_R = 30\ \text{mA}$ , $R_L = 100\ \Omega$ )	$t_{rr}$	-	50	ns



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

Figure 1. Recovery Time Equivalent Test Circuit

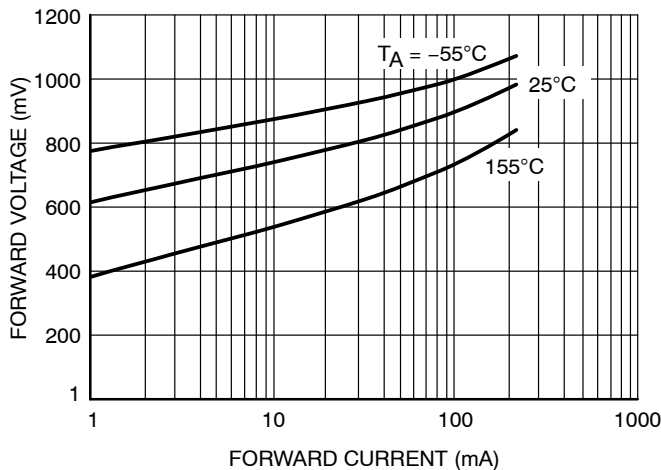


Figure 2. Forward Voltage

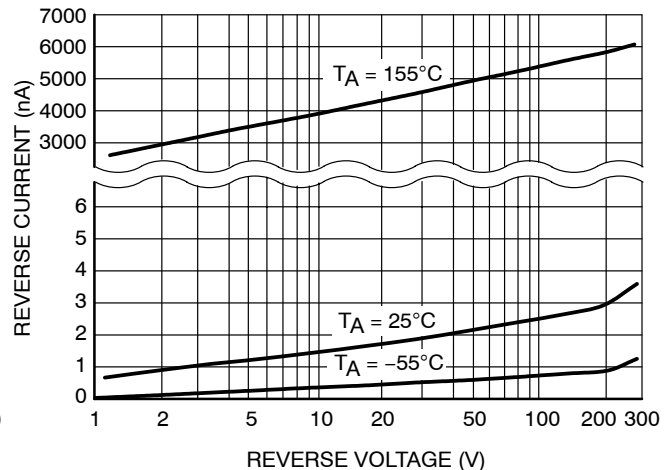


Figure 3. Reverse Leakage