

BAS21SLT1G, NSVBAS21SLT1G

Dual Series High Voltage Switching Diode

Features

- Moisture Sensitivity Level: 1
- ESD Rating – Human Body Model: Class 1
– Machine Model: Class B
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant
- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable

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 | $I_{FM(surge)}$ | 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°C | P_D | 225 | mW |
| 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°C | P_D | 300 | mW |
| 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 | $^\circ\text{C}$ |

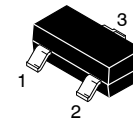
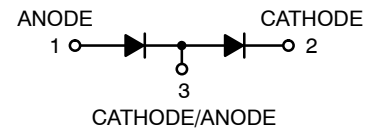
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

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



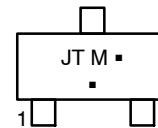
ON Semiconductor®

<http://onsemi.com>



SOT-23
CASE 318
STYLE 11

MARKING DIAGRAM



JT = Device Code
M = Date Code*
▪ = Pb-Free Package

(Note: Microdot may be in either location)

*Date Code orientation and/or overbar may vary depending upon manufacturing location.

ORDERING INFORMATION

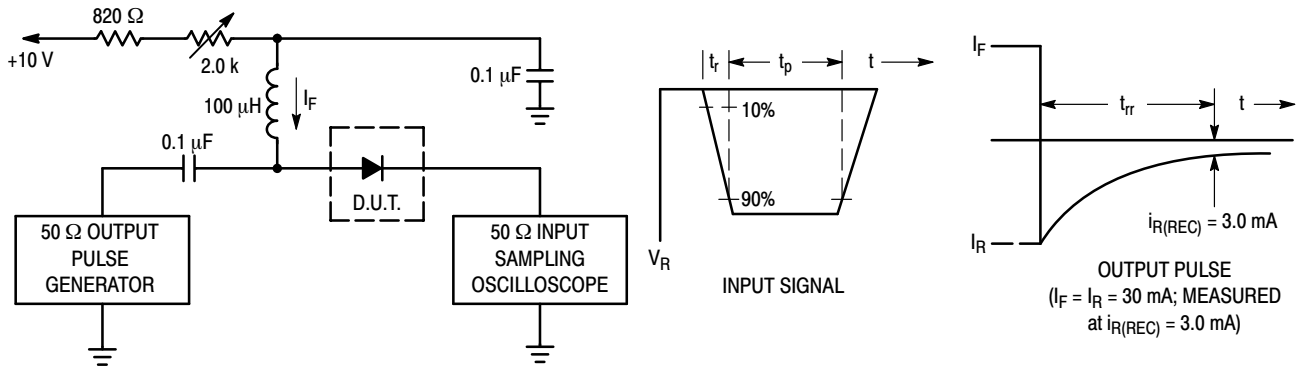
| Device | Package | Shipping† |
|---------------|------------------|--------------------|
| BAS21SLT1G | SOT-23 (Pb-Free) | 3000 / Tape & Reel |
| NSVBAS21SLT1G | SOT-23 (Pb-Free) | 3000 / Tape & Reel |

†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.

BAS21SLT1G, NSVBAS21SLT1G

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

| Characteristic | Symbol | Min | Max | Unit |
|---|------------|-----|--------------|------------------------------|
| OFF CHARACTERISTICS | | | | |
| 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 | μA 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 Ω 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

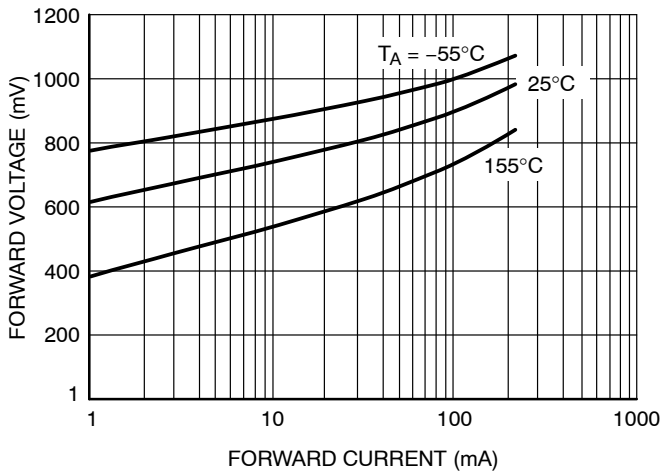


Figure 2. Forward Voltage

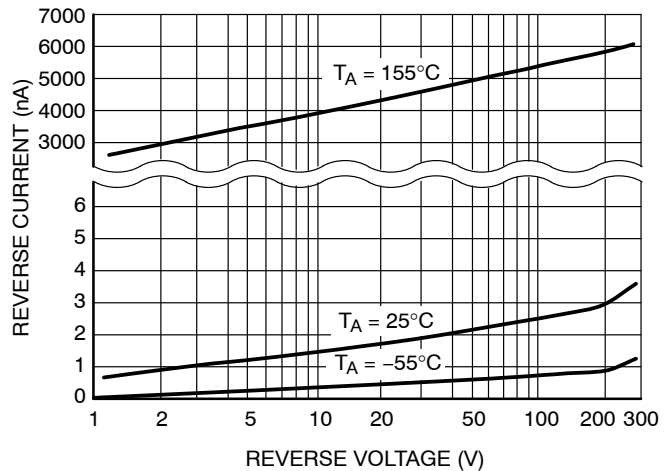
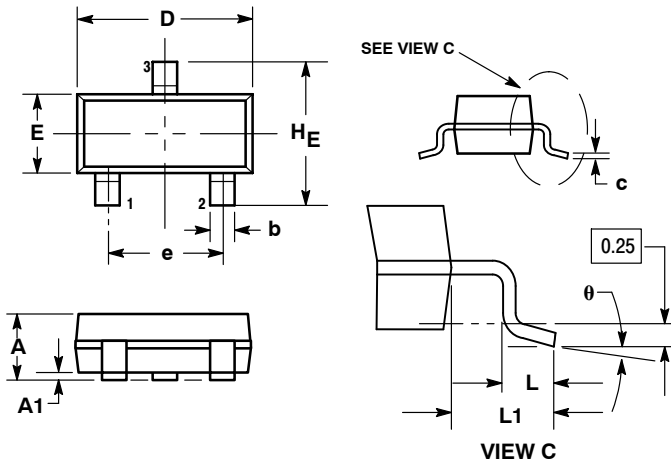


Figure 3. Reverse Leakage

BAS21SLT1G, NSVBAS21SLT1G

PACKAGE DIMENSIONS

SOT-23 (TO-236)
CASE 318-08
ISSUE AP



NOTES:

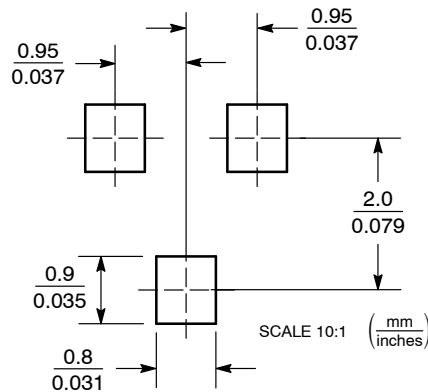
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

| DIM | MILLIMETERS | | | INCHES | | |
|-----|-------------|------|------|--------|-------|-------|
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 0.89 | 1.00 | 1.11 | 0.035 | 0.040 | 0.044 |
| A1 | 0.01 | 0.06 | 0.10 | 0.001 | 0.002 | 0.004 |
| b | 0.37 | 0.44 | 0.50 | 0.015 | 0.018 | 0.020 |
| c | 0.09 | 0.13 | 0.18 | 0.003 | 0.005 | 0.007 |
| D | 2.80 | 2.90 | 3.04 | 0.110 | 0.114 | 0.120 |
| E | 1.20 | 1.30 | 1.40 | 0.047 | 0.051 | 0.055 |
| e | 1.78 | 1.90 | 2.04 | 0.070 | 0.075 | 0.081 |
| L | 0.10 | 0.20 | 0.30 | 0.004 | 0.008 | 0.012 |
| L1 | 0.35 | 0.54 | 0.69 | 0.014 | 0.021 | 0.029 |
| HE | 2.10 | 2.40 | 2.64 | 0.083 | 0.094 | 0.104 |
| θ | 0° | --- | 10° | 0° | --- | 10° |

STYLE 11:

1. ANODE
2. CATHODE
3. CATHODE-ANODE

SOLDERING FOOTPRINT*



*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

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Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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