



## DESCRIPTION

The BAS21 is available in SOT-23 package

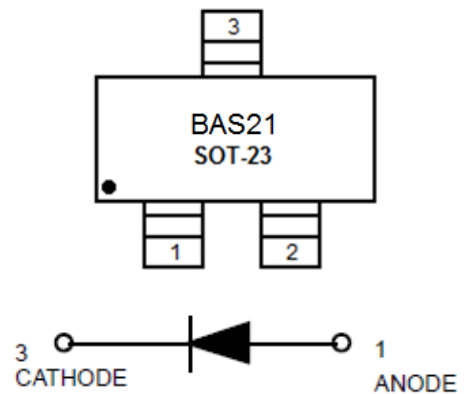
## FEATURES

- RoHS Compliant
- Available in SOT-23 package

## ORDERING INFORMATION

Package Type	Part Number
SOT-23	BAS21
Note	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

## PIN DESCRIPTION





## ABSOLUTE MAXIMUM RATINGS

$V_R$ , Continuous Reverse Voltage	250Vdc
$I_F$ , Peak Forward Current	200mAdc
$I_{FM(SURGE)}$ , Peak Forward Surge Current	625mAdc

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

## THERMAL CHARACTERISTICS

Parameter	Symbol	Max.	Unit
Total Device Dissipation FR-5 Board <sup>NOTE1</sup> $T_A=25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	225 1.8	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate <sup>NOTE2</sup> $T_A=25^\circ\text{C}$ 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	$^\circ\text{C}$

NOTE1: FR-5 = 1.0 x 0.75 x 0.062 in.

NOTE2: Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

## ELECTRICAL CHARACTERISTICS

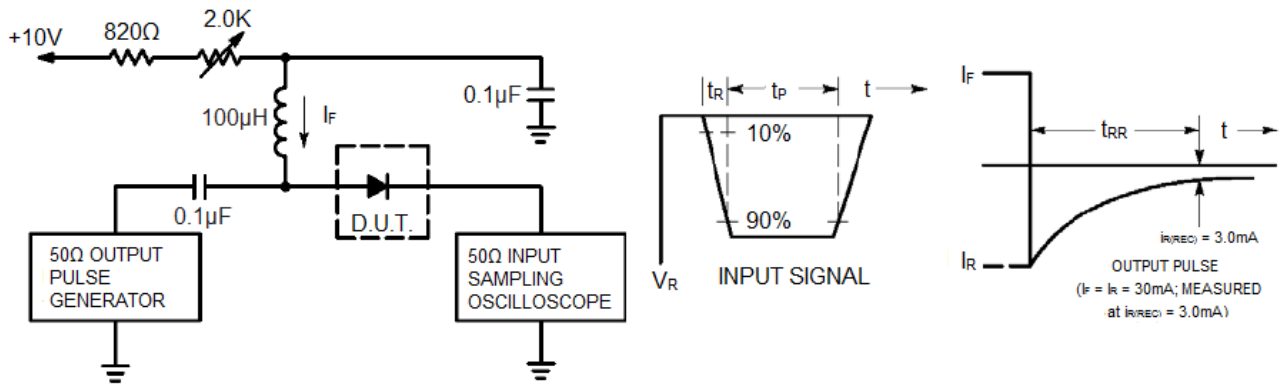
$T_A=25^\circ\text{C}$ , unless otherwise noted

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



## TEST CIRCUIT

Figure 1. Recovery Time Equivalent Test Circuit



Note1: A 2.0kΩ variable resistor adjusted for a Forward Current ( $I_F$ ) of 30mA.

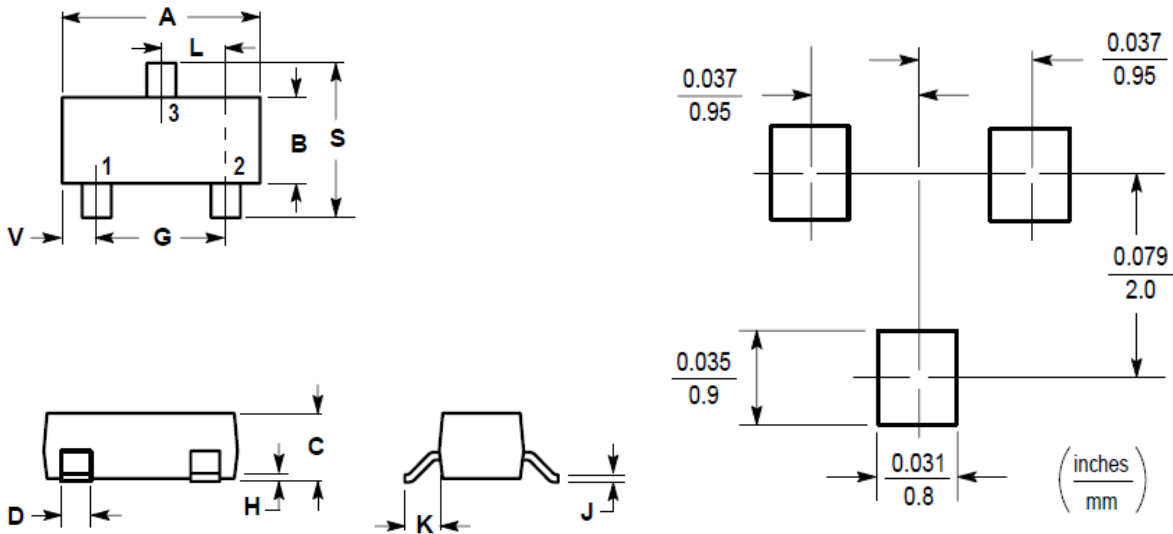
Note2: Input pulse is adjusted so  $I_{R(PEAK)}$  is equal to 30mA.

Note3:  $t_P \gg t_{RR}$



**PACKAGE INFORMATION**

Dimension in SOT-23 Package (Unit: mm)



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.800	3.040	0.1102	0.1197
B	1.200	1.400	0.0472	0.0551
C	0.890	1.110	0.0350	0.0440
D	0.370	0.500	0.0150	0.0200
G	1.780	2.040	0.0701	0.0807
H	0.013	0.100	0.0005	0.0040
J	0.085	0.177	0.0034	0.0070
K	0.350	0.690	0.0140	0.0285
L	0.890	1.020	0.0350	0.0401
S	2.100	2.640	0.0830	0.1039
V	0.450	0.600	0.0177	0.0236



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