



DESCRIPTION

The BAS21 is available in SOT-23 Package

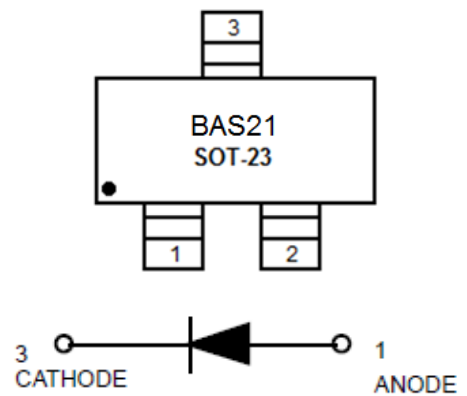
FEATURES

- 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 ^{NOTE1} $T_A=25^\circ\text{C}$ Derate above 25°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 ^{NOTE2} $T_A=25^\circ\text{C}$ Derate above 25°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.

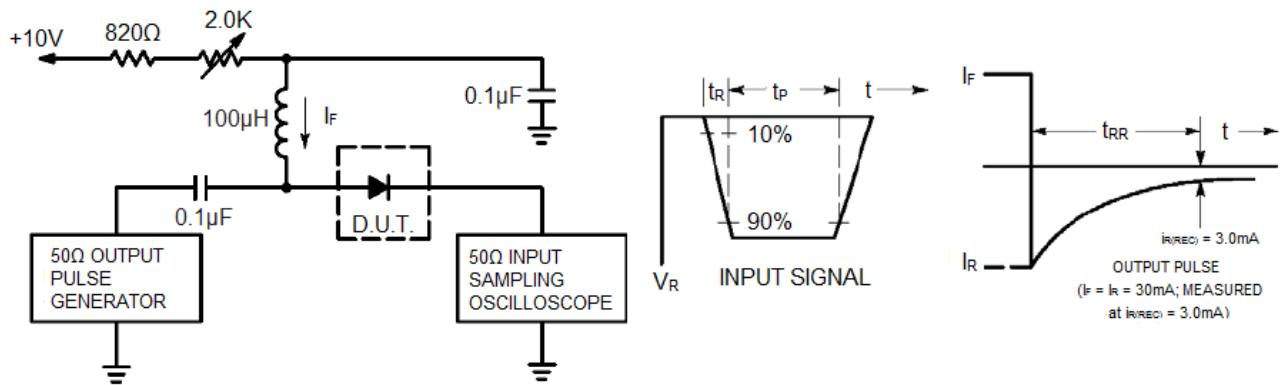
ELECTRICAL CHARACTERISTICS

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
OFF CHARACTERISTICS						
Reverse Voltage Leakage Current	I_R	$V_R=200\text{Vdc}$			0.1	μAdc
		$V_R=200\text{Vdc}, T_J=150^\circ\text{C}$			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.

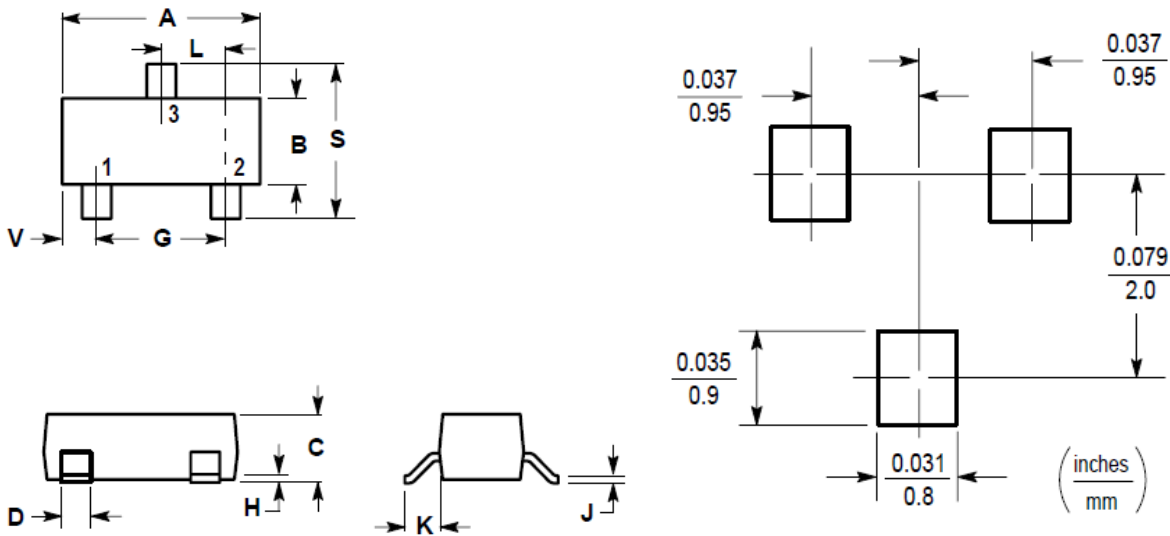
Note2: Input pulse is adjusted so $I_{R(PEAK)}$ is equal to 30mA.

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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