



DESCRIPTION

The BAS16L is available in SOT-23 Package

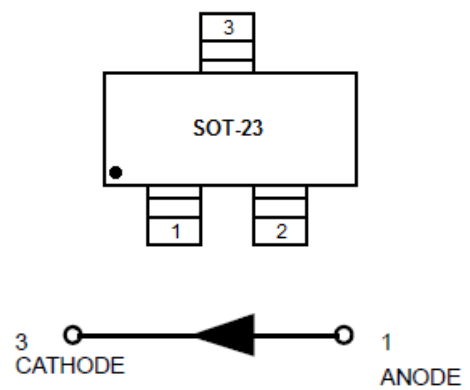
FEATURES

- Available in SOT-23 Package

ORDERING INFORMATION

Package Type	Part Number
SOT-23	BAS16L
Note	SPQ: 3,000pcs/Reel
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION





ABSOLUTE MAXIMUM RATINGS

T_A = 25°C

V _R , Continuous Reverse Voltage	75V
I _F , Peak Forward Current	200mA
I _{FSM} , Peak Forward Surge Current	500mA

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	Limits	Unit
Total Device Dissipation FR- 5 Board ^{NOTE1} T _A = 25 °C Derate above 25 °C	P _D	225 1.8	mW mW/°C
Thermal Resistance, Junction to Ambient	R _{θJA}	556	°C/W
Total Device Dissipation Alumina Substrate, ^{NOTE2} T _A = 25 °C Derate above 25 °C	P _D	300 2.4	mW mW/°C
Thermal Resistance, Junction to Ambient	R _{θJA}	417	°C/W
Junction and Storage Temperature	T _J , T _{STG}	-55 to +150	°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

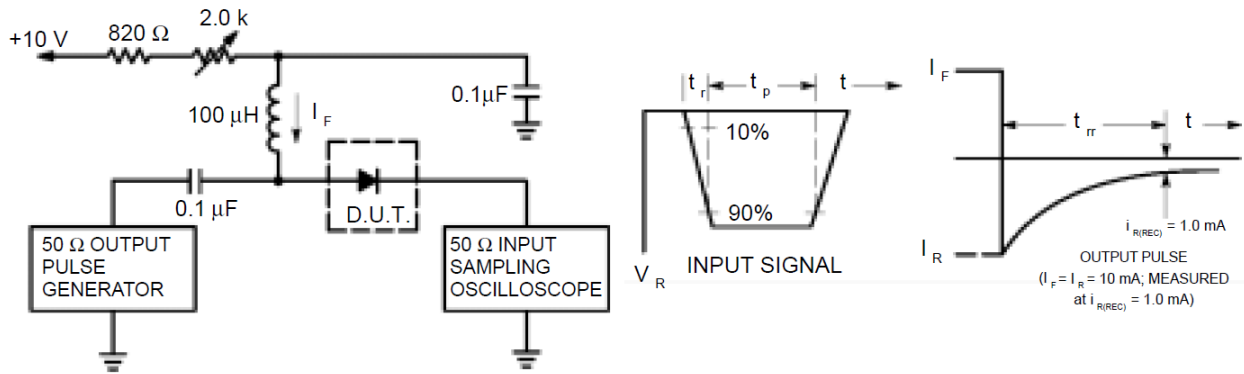
T_A = 25°C

Parameter	Symbol	Conditions	Min.	Max.	Unit
Reverse Voltage Leakage Current	I _R	V _R = 75V	-	1.0	μA
		V _R = 75V, T _J = 150°C	-	50	
		V _R = 25V, T _J = 150°C	-	30	
Reverse Breakdown Voltage	V _{BR}	I _{BR} = 100μA	75	-	V
Forward Voltage	V _F	I _F = 1.0mA	-	715	mV
		I _F = 10mA	-	855	
		I _F = 50mA	-	1000	
		I _F = 150mA	-	1250	
Diode Capacitance	C _D	V _R = 0, f = 1.0MHz	-	2.0	pF
Forward Recovery Voltage	V _{FR}	I _F = 10mA, t _r = 20ns	-	1.75	V
Reverse Recovery Time	t _{rr}	I _F = I _R = 10mA, R _L = 50Ω	-	6.0	ns
Stored Charge	Q _S	I _F = 10mA to V _R = 5.0V, R _L = 500Ω	-	45	pC



TYPICAL CHARACTERISTICS

Figure 1. Recovery Time Equivalent Test Circuit



NOTE1: A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10 mA.

NOTE2: Input pulse is adjusted so $I_{R(\text{peak})}$ is equal to 10 mA.

NOTE3: $t_p \gg t_{rr}$

Figure 2. Forward Voltage

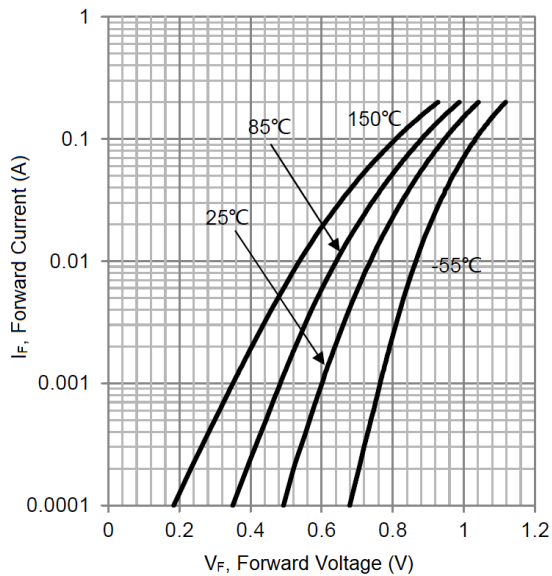


Figure 3. Leakage Current

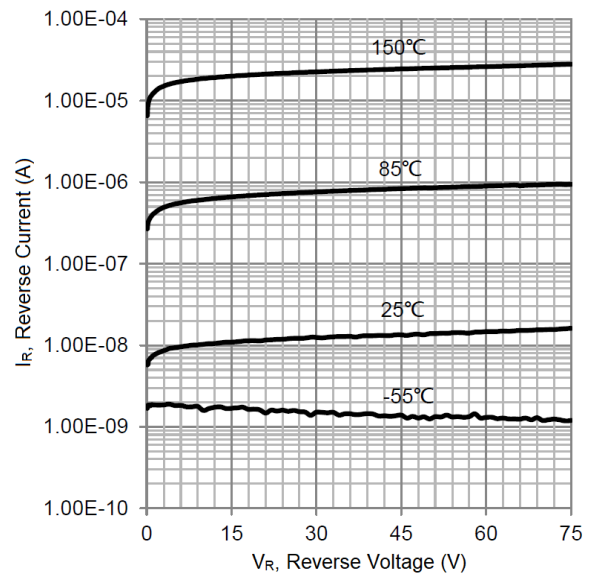
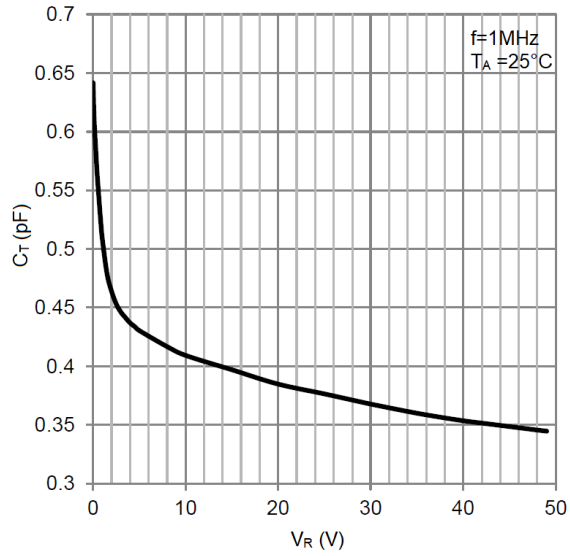




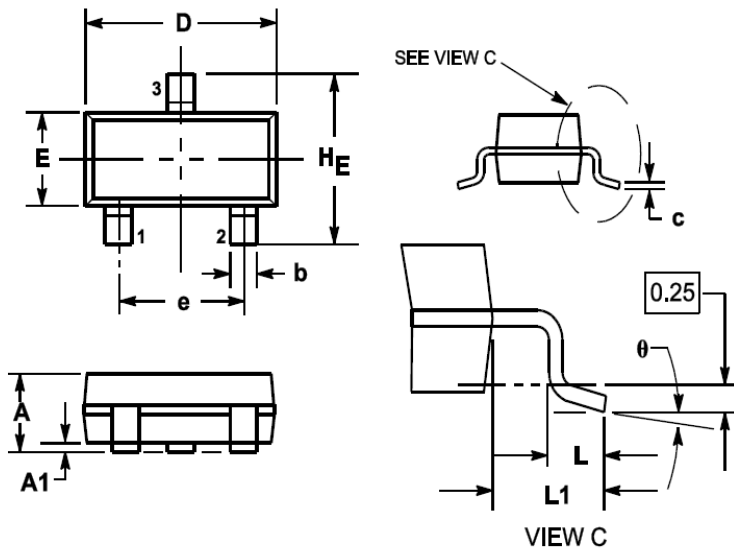
Figure 4. Capacitance



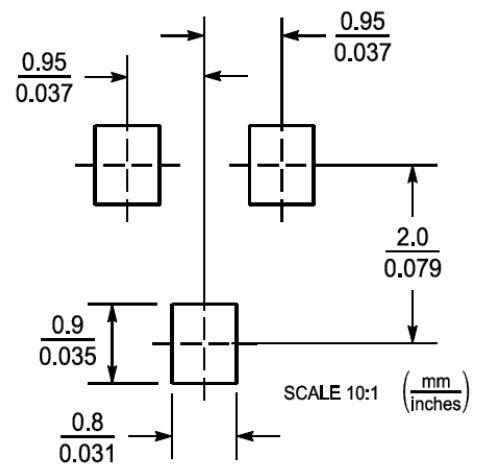


PACKAGE INFORMATION

Dimension in SOT-23 Package (Unit: mm)



SOLDERING FOOTPRINT



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.89	1.11	0.035	0.044
A1	0.01	0.10	0.001	0.004
b	0.37	0.50	0.015	0.020
c	0.09	0.18	0.003	0.007
D	2.80	3.04	0.110	0.120
E	1.20	1.40	0.047	0.055
e	1.78	2.04	0.070	0.081
L	0.10	0.30	0.004	0.012
L1	0.35	0.69	0.014	0.029
HE	2.10	2.64	0.083	0.104
θ	0°	10°	0°	10°



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