

Surface Mount Switching Diode

BAS16

Voltage: 75 Volts

Current: 200mA

Features

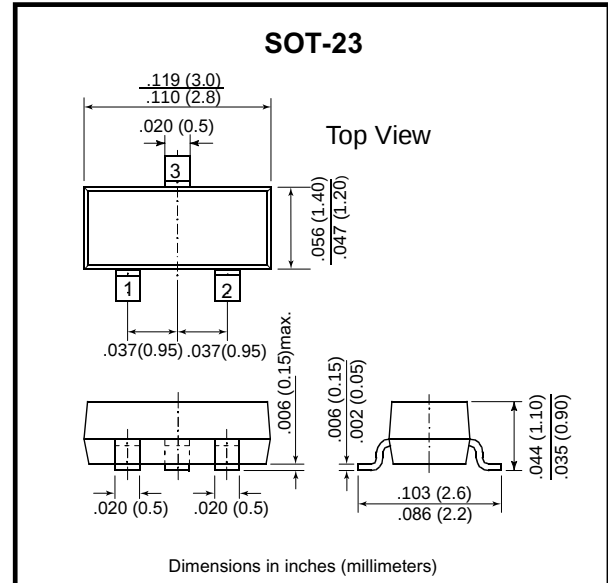
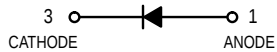
- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance

Mechanical data

Case: SOT -23, Plastic

Terminals : Solderable per NIL-STD -202, method 208

Approx. Weight: 0.008 gram



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	V_R	75	Vdc
Peak Forward Current	I_F	200	mAdc
Peak Forward Surge Current	$I_{FM}(\text{surge})$	500	mAdc

THERMAL CHARACTERISTICS

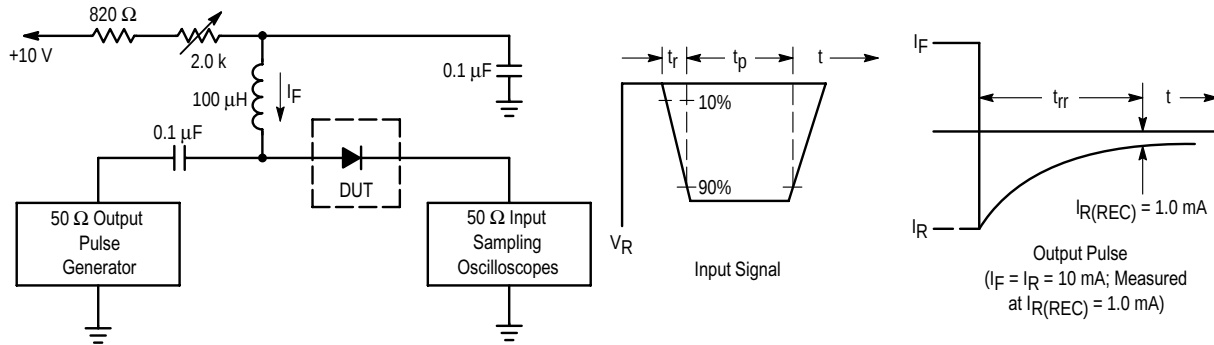
Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board ⁽¹⁾ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	225	mW
		1.8	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C/W}$
Total Device Dissipation Alumina Substrate, ⁽²⁾ $T_A = 25^\circ\text{C}$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

ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Reverse Voltage Leakage Current (VR = 75 Vdc) (VR = 75 Vdc, TJ = 150°C) (VR = 25 Vdc, TJ = 150°C)	IR	— — —	1.0 50 30	μAdc
Reverse Breakdown Voltage (IBR = 100 μAdc)	V(BR)	75	—	Vdc
Forward Voltage (IF = 1.0 mAdc) (IF = 10 mAdc) (IF = 50 mAdc) (IF = 150 mAdc)	VF	— — — —	715 855 1000 1250	mV
Diode Capacitance (VR = 0, f = 1.0 MHz)	CD	—	2.0	pF
Forward Recovery Voltage (IF = 10 mAdc, tr = 20 ns)	VFR	—	1.75	Vdc
Reverse Recovery Time (IF = IR = 10 mAdc, RL = 50 Ω)	trr	—	6.0	ns
Stored Charge (IF = 10 mAdc to VR = 5.0 Vdc, RL = 500 Ω)	QS	—	45	pC

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

Rating and Characteristic Curves (BAS16)



- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10 mA.
2. Input pulse is adjusted so $I_R(\text{peak})$ is equal to 10 mA.
3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

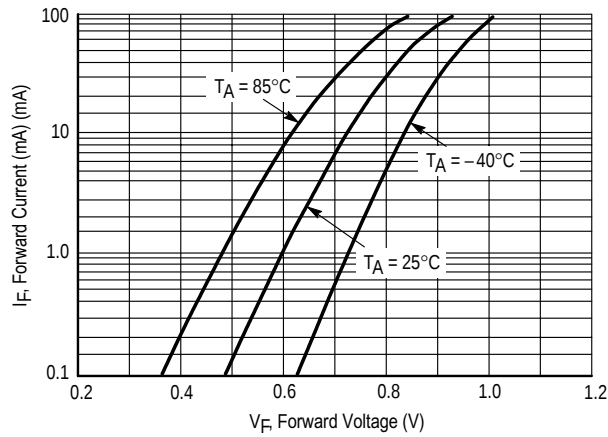


Figure 2. Forward Voltage

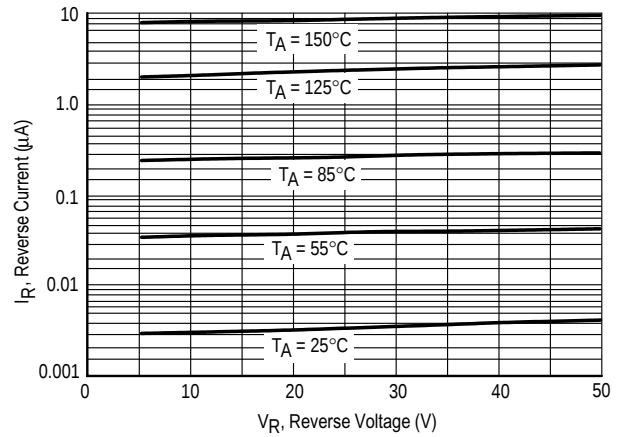


Figure 3. Leakage Current

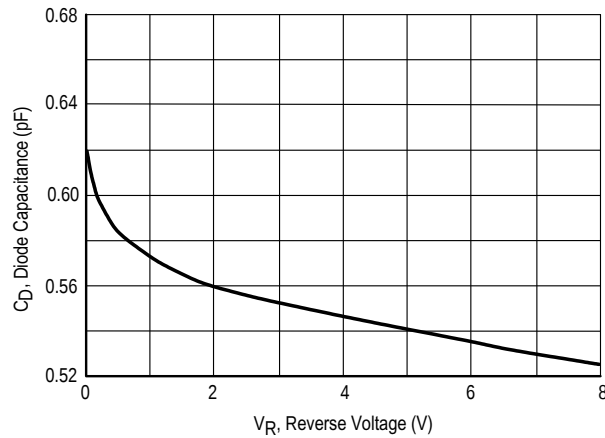


Figure 4. Capacitance