

■ Features

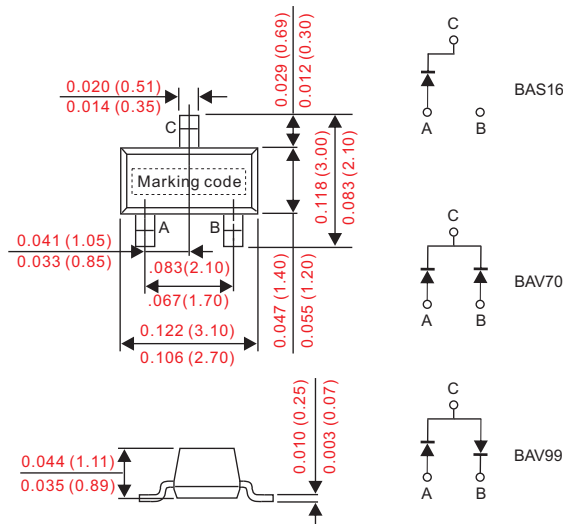
- Fast speed switching.
- For general purpose switching application.
- High conductance.
- Silicon epitaxial planar chip.
- Suffix "G" indicates Halogen-free part, ex.BAS16G.
- Lead-free parts meet RoHS requirements.

■ Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOT-23
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any
- Weight : Approximated 0.008 gram

■ Outline

SOT-23



Dimensions in inches and (millimeters)

■ Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	BAS16	BAV70	BAV99	UNIT
Marking code		A6	A4	A7	
Reverse Voltage	V_R	75	70		V
Forward Current	I_F	200		215	mAdc
Peak Forward Surge Current	$I_{FM(surge)}$	500			mAdc
Total Device Dissipation FR-5 Board(1) TA = 25°C Derate above 25°C	P_D		225 1.8		mW mW/°C
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$		556		°C/W
Total Device Dissipation Alumina Substrate(2) TA = 25°C Derate above 25°C	P_D		300 2.4		mW mW/°C
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$		417		°C/W
Junction and Storage Temperature	T_J, T_{STG}		-55 ~ +150		°C

Characteristic	Symbol	MIN.	MAX.	UNIT
Reverse Breakdown Voltage $I_{(BR)} = 100\mu A$	$V_{(BR)}$	75 70		Vdc
Reverse Voltage Leakage Current $V_R = 25Vdc$ $V_R = 70Vdc$ $V_R = 25Vdc, T_J = 150^\circ C$ $V_R = 25Vdc, T_J = 150^\circ C$ $V_R = 75Vdc, T_J = 150^\circ C$ $V_R = 70Vdc, T_J = 150^\circ C$ $V_R = 70Vdc, T_J = 150^\circ C$	I_R		1.0 2.5 30 60 50 50 100	μA dc
Diode Capacitance $V_R = 0, f = 1.0MHz$	C_D		2.0 1.5	pF
Forward Voltage $I_F = 1.0mAdc$ $I_F = 10mAdc$ $I_F = 50mAdc$ $I_F = 150mAdc$	V_F		715 855 1000 1250	mVdc
Reverse Recovery Time $I_F = I_R = 10mAdc, V_R = 5.0Vdc, I_{R(REC)} = 1.0mAdc, R_L = 100\Omega$	t_{rr}		6.0	nS

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

FIG.1-TYPICAL FORWARD CHARACTERISTICS

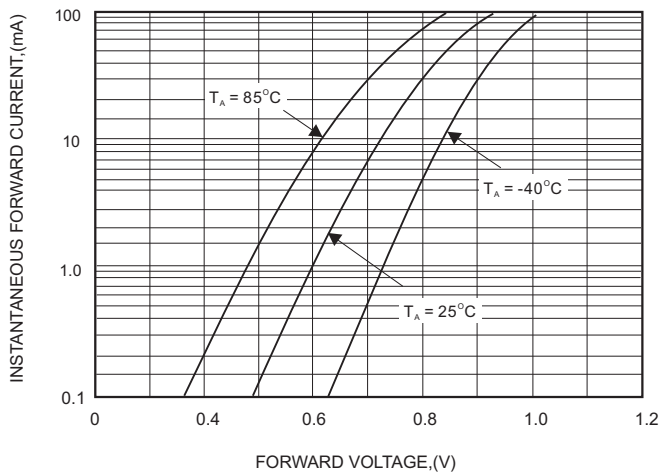


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

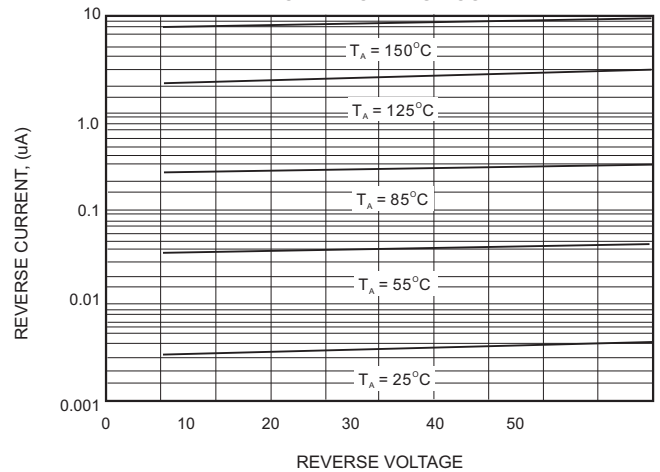
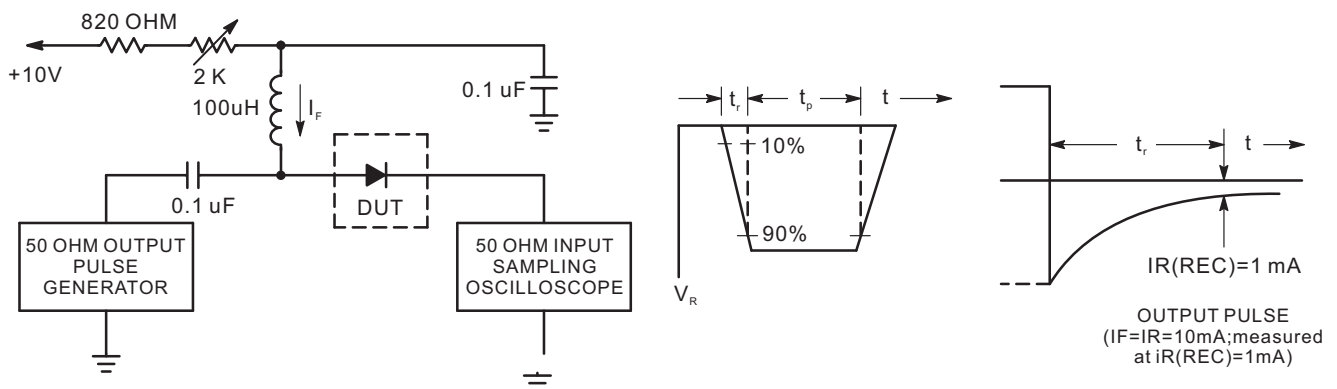
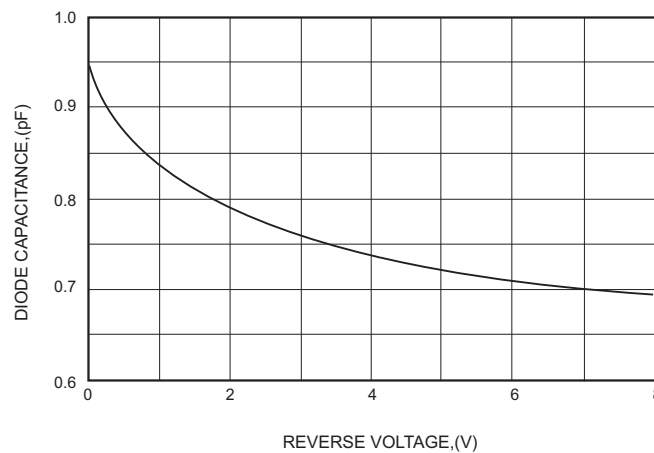


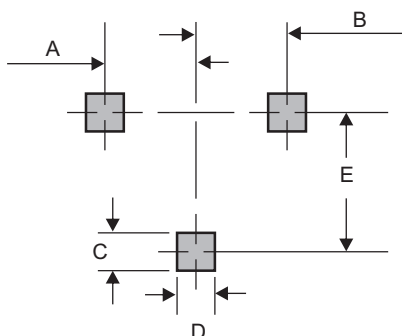
FIG.2 - TYPICAL DIODE CAPACITANCE



- Notes : 1. A2.0 Kohm variable resistor adjusted for a forward Current (I_F) of 10mA.
2. Input pulse is adjusted so $I_R(\text{peak})$ is equal to 10 mA.
3. $t_p \gg t_{rr}$.

Recovery Time Equivalent Test Circuit

■ SOT-23 foot print



A	B	C	D	E
0.037 (0.95)	0.037 (0.95)	0.035 (0.90)	0.031 (0.80)	0.079 (2.00)

Dimensions in inches and (millimeters)

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