BAS16 / BAV70 / BAV99

200 / 215mA Surface Mount Switching Diodes

■ Features

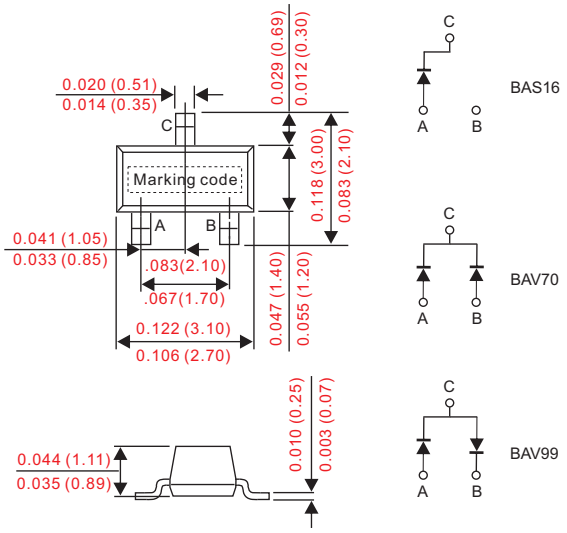
- Fast speed switching.
- For general purpose switching application.
- High conductance.
- Silicon epitaxial planar chip.
- Suffix "G" indicates Halogen-free part, ex.BAS16G.
- Lead-free parts meet RoHS requirments.

■ 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	$I_{(BR)}$ = 100uAdc	BAS16 BAV70/BAV99	$V_{(BR)}$	75 70		Vdc
Reverse Voltage Leakage Current	V_R = 25Vdc V_R = 70Vdc	BAS16 BAV70/BAV99	I_R		1.0 2.5	uAdc
	V_R = 25Vdc, T_J = 150°C V_R = 25Vdc, T_J = 150°C	BAS16/BAV99 BAV70			30 60	
	V_R = 75Vdc, T_J = 150°C V_R = 70Vdc, T_J = 150°C V_R = 70Vdc, T_J = 150°C	BAS16 BAV99 BAV70			50 50 100	
Diode Capacitance	V_R = 0, f = 1.0MHz	BAS16 BAV70/BAV99	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 = 100Ω		trr		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.

Document ID : DS-22S01
Revised Date : 2013/06/27
Revision : C1

■ Rating and characteristic curves

FIG.1-TYPICAL FORWARD CHARACTERISTICS

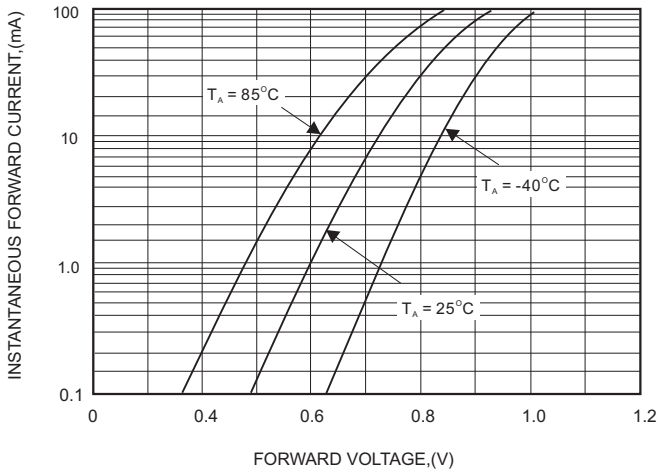


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

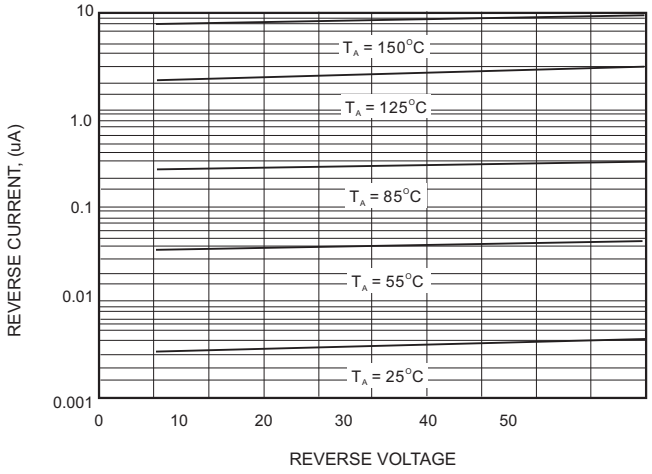
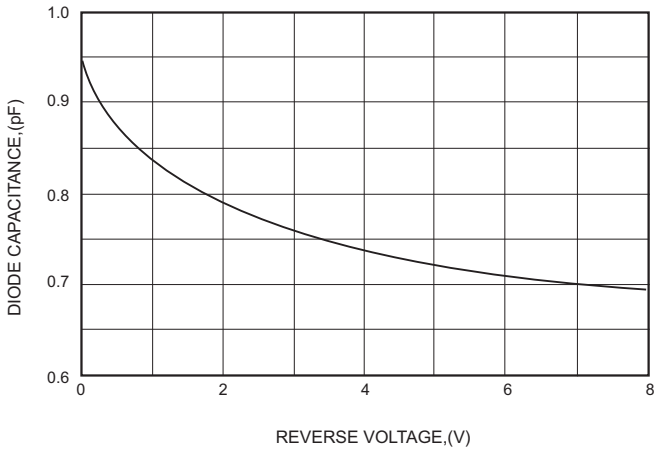
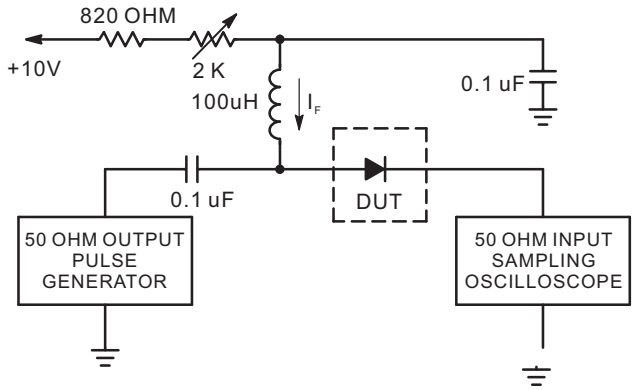
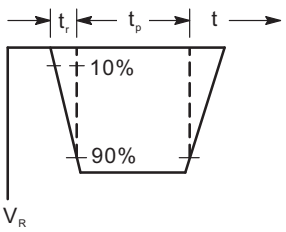
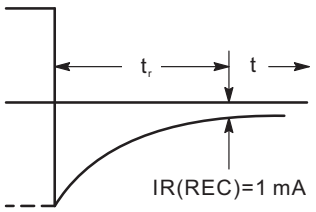


FIG.2 - TYPICAL DIODE CAPACITANCE









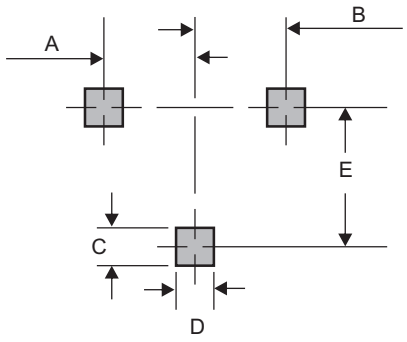
OUTPUT PULSE
(IF=IR=10mA;measured at iR(REC)=1mA)

Notes : 1. A2.0 Kohm variable resistor adjusted for a forward Current (IF) of 10mA.
2. Input pulse is adjusted so IR(peak) is equal to 10 mA.
3. tp >> trr.

Recovery Time Equivalent Test Circuit

Document ID : DS-22S01
Revised Date : 2013/06/27
Revision : C1

■ 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)

■ CITC reserves the right to make changes to this document and its products and specifications at any time without notice.

■ Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

■ CITC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does CITC assume any liability for application assistance or customer product design.

■ CITC does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

■ No license is granted by implication or otherwise under any intellectual property rights of CITC.

■ CITC products are not authorized for use as critical components in life support devices or systems without express written approval of CITC.

http://www.citcorp.com.tw/ Tel:886-3-5600628 Fax:886-3-5600636

Add:Rm. 3, 2F., No.32, Taiyuan St., Zhubei City, Hsinchu County 302, Taiwan (R.O.C.)

Document ID : DS-22S01
Revised Date : 2013/06/27
Revision : C1