

### ■ Features

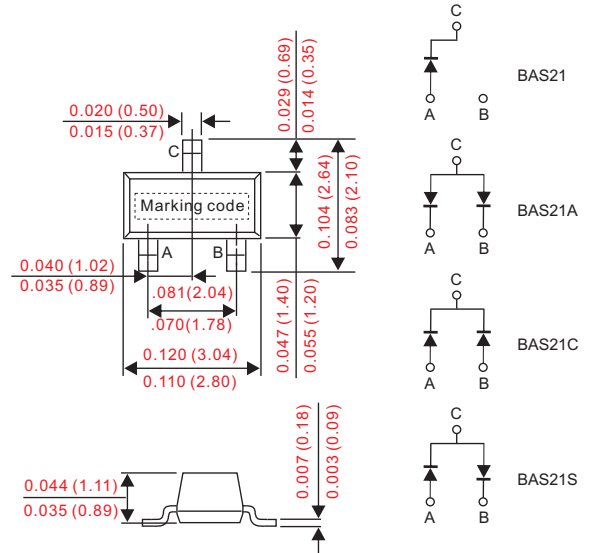
- Fast speed switching.
- For general purpose switching application.
- High conductance.
- Silicon epitaxial planar chip.
- Suffix "G" indicates Halogen-free part, ex. BAS21G.
- Lead-free parts meet RoHS requirements.

### ■ 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	BAS21	BAS21A	BAS21C	BAS21S	UNIT	
Making code		JS	JS2	JS3	JS4		
Reverse Voltage	$V_R$	250				V	
Forward Current	$I_F$	200				mA	
Repetitive Peak Forward Surge Current	$I_{FRM}$	625				mA	
Total Device Dissipation FR-5 Board(1)	$P_D$	225				mW	
		Derate above 25°C				1.8	mW/°C
Total Device Dissipation Alumina Substrate(2) TA = 25°C	$P_D$	300				mW	
		Derate above 25°C				2.4	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	$V_{(BR)}$	250		V
Reverse Voltage Leakage Current	$I_R$		0.1	uA
			100	
Total Capacitance	$C_J$		5.0	pF
Forward Voltage	$V_F$		1.0	V
			1.25	
Reverse Recovery Time	trr		50	nS

NOTE : 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

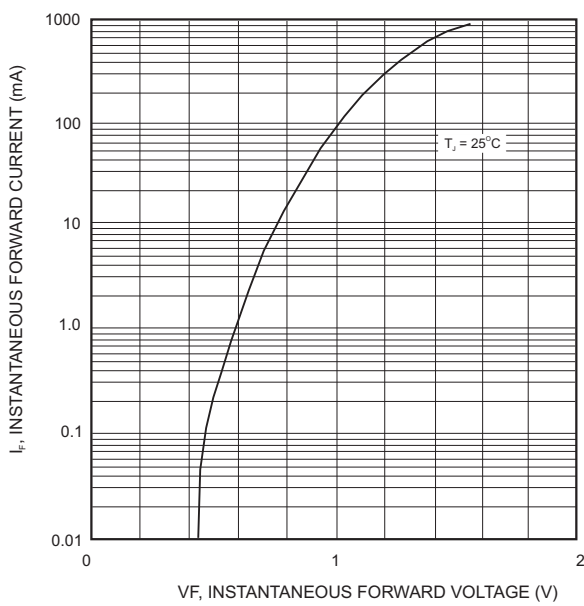
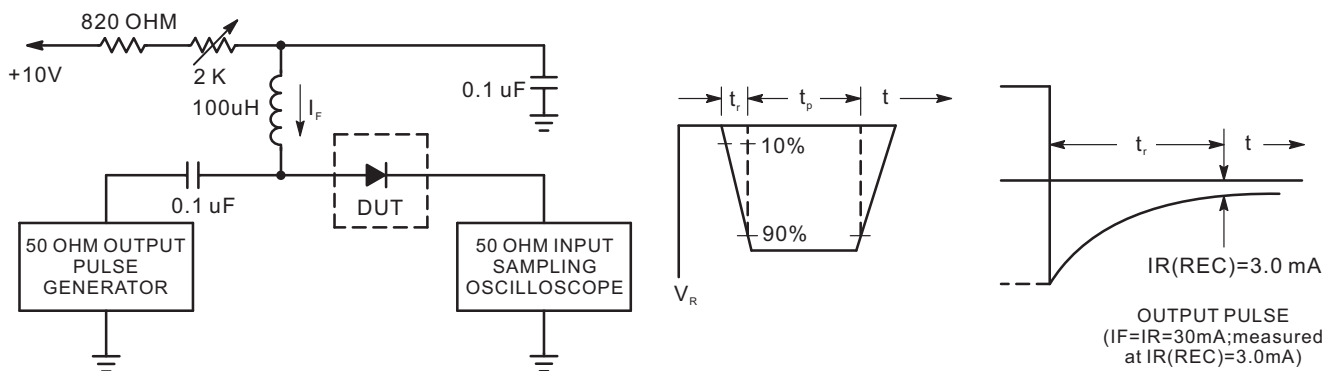
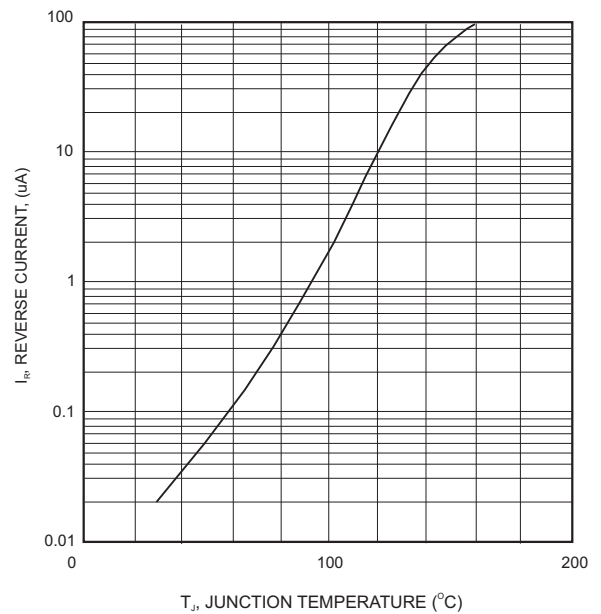


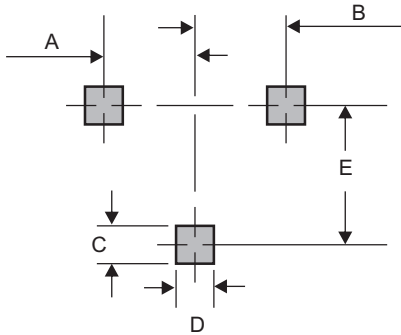
FIG.2 - LEAKAGE CURRENT VS JUNCTION TEMPERATURE



- Notes : 1. A2.0 Kohm variable resistor adjusted for a forward Current ( $I_F$ ) of 30mA.  
 2. Input pulse is adjusted so  $I_R(\text{peak})$  is equal to 30 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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