

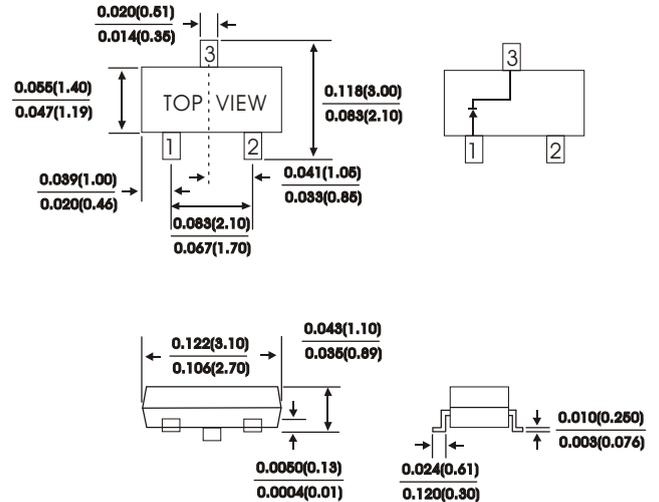


**SURFACE MOUNT SWITCHING DIODES**

**SOT-23**

**FEATURES:**

- Low current leakage
- Low forward voltage
- Small outline surface mount SOT-23 Package
- High Conductance
- Surface mount package Ideally Suited for Insertion



**MECHANICAL DATA**

Case : SOT-23 molded plastic  
 Terminal: Solderable per MIL-STD-202, Method 208  
 Approx. Weight: 0.008gram

Dimensions in inches and (millimeters)

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

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

Characteristic	Symbol	BAS19	BAS20	BAS21	Units
Reverse voltage	$V_R$	100	150	200	Volts
Minimum reverse voltage	$V_{RM}$	120	200	250	Volts
Maximum average forward rectified current, Half wave rectification with resistive load and $f \geq 50\text{Hz}$	$I_{(AV)}$		0.2		Amps
Peak forward surgecurrent, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$		2.5		Amps
Maximum power dissipation derate above 25°C	$P_{tot}$		0.35		W
Maximum instantaneous forward voltage $I_F = 100\text{mA}$	$V_F$		1.000		Volts
Maximum reverse current at $V_R, T_J = 25^\circ\text{C}$	$I_R$		0.1		$\mu\text{A}$
Typical junction capacitance (NOTE 1)	$T_{RR}$		50		nS
Maximum diode capacitance (NOTE 2)	$C_J$		1.5		$P_F$
Operating and storage temperature range	$T_J, T_{Stg}$		-55to+125		°C

NOTES:  
 (1) Reverse Recovery Test Condition :  $I_F = 10\text{mA}, I_R(\text{Rec}) = 1.0\text{mA}, V_R = 6.0\text{V}, R_L = 100\Omega$   
 (2) Measured at 1 MHz and reverse Voltage of 0.0V



RATINGS AND CHARACTERISTIC CURVES

FIG.1- TYPICAL REVERSE CHARACTERISTICS

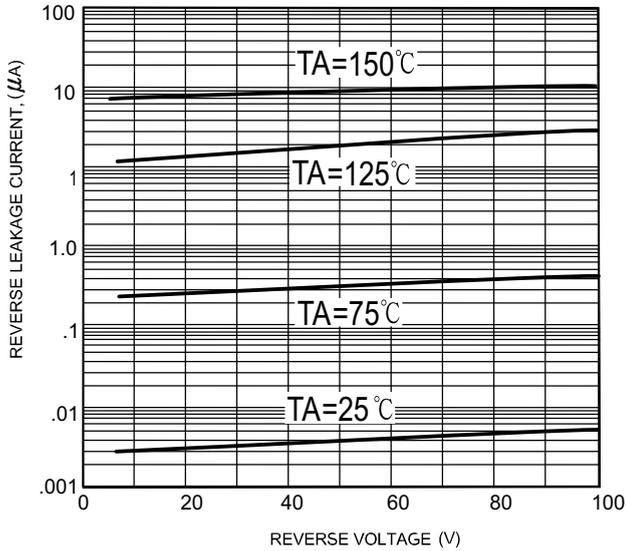


FIG.2 - TYPICAL FORWARD CHARACTERISTICS

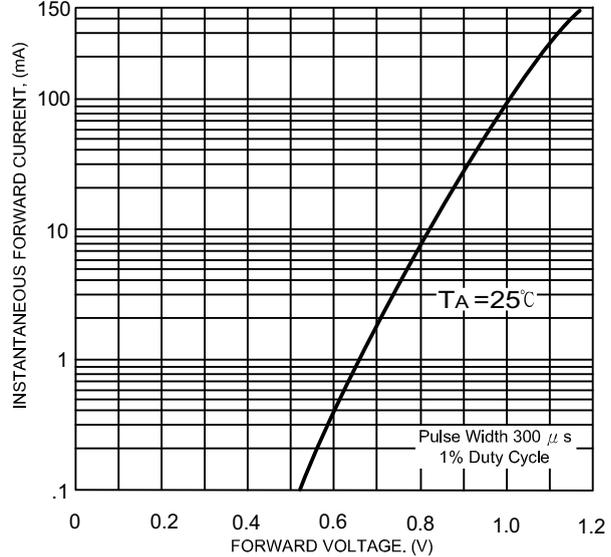


FIG.3-TYPICAL CAPACITANCE

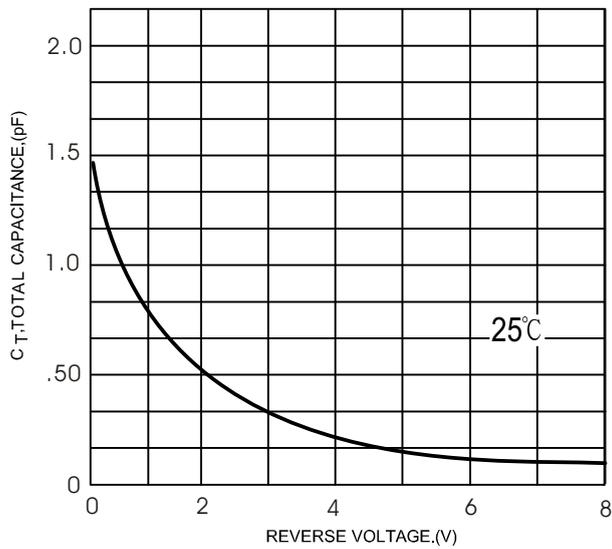
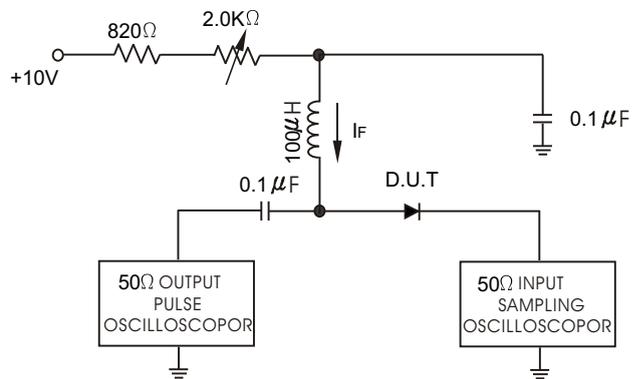
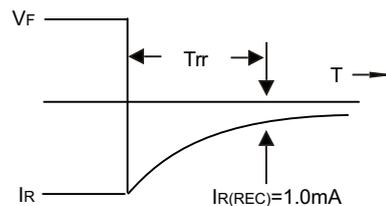
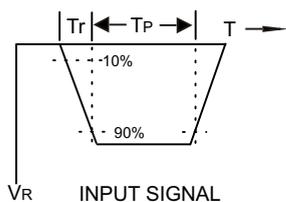


Figure 7 Recovery Test equivalent Circuit



- NOTES : 1.A 2.0K Variable resistor for forward current ( $I_F$ ) of 10mA
- 2.Input pules is adjusted so  $I_{R(peak)}$  is equal to 10mA
- 3.tp" trr



OUTPUT PULSE  
( $I_F=10mA$ , MEASURED  
at  $I_{R(REC)}=1.0mA$ )



**RATINGS AND CHARACTERISTIC CURVES**

Device Marking

Item	Marking	Equivalent Circuit diagram
BAS19	A8	
BAS20	A80	
BAS21	A82	



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