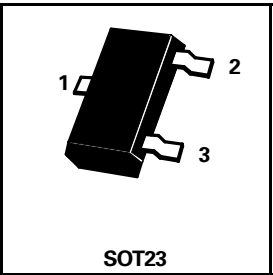
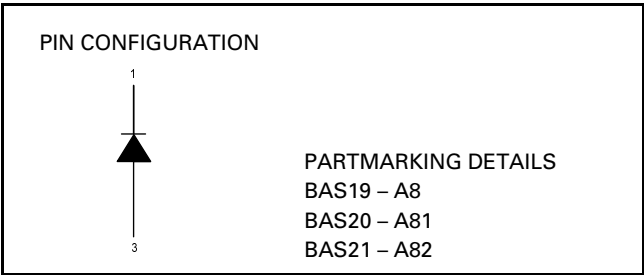


SOT23 SILICON HIGH SPEED SWITCHING DIODE

ISSUE 2 – JANUARY 1995

**BAS19
BAS20
BAS21**



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	BAS19	BAS20	BAS21	UNIT
Continuous Reverse Voltage	V_R	100	150	200	V
Repetative Peak Reverse Voltage	V_{RRM}	120	200	250	V
Average Forward Rectified Current	$I_{F(AV)}$	200			mA
Forward Current	I_F	200			mA
Repetative Peak Forward Current	I_{FRM}	625			mA
Power Dissipation at $T_{amb}=25^{\circ}C$	P_{tot}	330			mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150			$^{\circ}C$

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated).

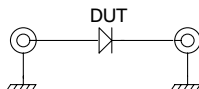
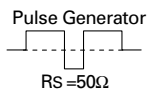
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Reverse Breakdown Voltage	$V_{(BR)}$					
					V	$I_R=100\mu A$ (1)
					V	$I_R=100\mu A$ (1)
					V	$I_R=100\mu A$ (2)
Reverse Current	I_R			100 100	nA μA	$V_R=V_{Rmax}$ $V_R=V_{Rmax}$, $T_J=150^{\circ}C$
Static Forward Voltage	V_F			1.00 1.25		$I_F=100mA$ $I_F=200mA$
Differential Resistance	r_{diff}		5		Ω	$I_F=10mA$
Diode Capacitance	C_d			5	pF	$f=1MHz$
Reverse Recovery Time	t_{rr}			50	ns	$I_F=30mA$ to $I_R=30mA$ $R_L=10\Omega$ measured at $I_R=3mA$

- (1) Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$
 (2) At zero life time, measured under pulse conditions to avoid excessive dissipation and voltage limited to 275V
 Spice parameter data is available upon request for this device

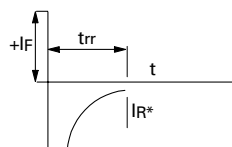
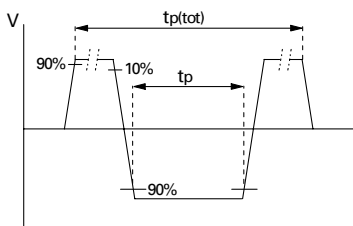
BAS19 **BAS20** **BAS21**

SWITCHING TIME TEST DATA

Recovery Time Equivalent Test Circuit



Sampling Oscilloscope
 $R_{IN} = 50\Omega$



Input Signal

Total Pulse Duration	$t_{p(tot)}$	$2\mu s$
Duty Factor	δ	0.0025
Rise Time of Reverse Pulse	t_r	0.6ns

Reverse Pulse Duration

t_p	100ns
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Oscilloscope

Rise Time	t_r	0.35ns
Circuit Capacitance*	C	<1pF

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