

SOT23 SILICON HIGH SPEED SWITCHING DIODE

ISSUE 2 – JANUARY 1995

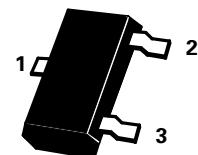
BAS19
BAS20
BAS21

PIN CONFIGURATION



PARTMARKING DETAILS

BAS19 – A8
BAS20 – A81
BAS21 – A82



SOT23

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	BAS19	BAS20	BAS21	UNIT
Continuous Reverse Voltage	V_R	100	150	200	V
Repetitive Peak Reverse Voltage	V_{RRM}	120	200	250	V
Average Forward Rectified Current	$I_{F(AV)}$		200		mA
Forward Current	I_F		200		mA
Repetitive 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		°C

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Reverse Breakdown Voltage	$V_{(BR)}$	120		V	$I_R=100\mu A$ (1)	
BAS19						
BAS20						
BAS21						
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=300μs. Duty cycle ≤ 2%

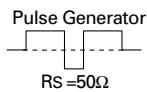
(2) At zero life time, measured under pulse conditions to avoid excessive dissipation and voltage limited to 275V

Spice parameter data is available upon request for this device

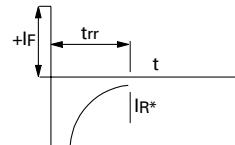
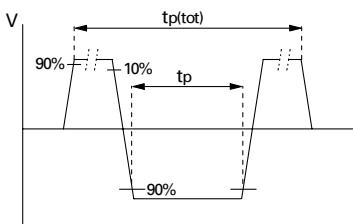
BAS19
BAS20
BAS21

SWITCHING TIME TEST DATA

Recovery Time Equivalent Test Circuit



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



Input Signal			Reverse Pulse Duration	t_p	100ns
Total Pulse Duration	$t_{p(tot)}$	$2\mu s$	Oscilloscope		
Duty Factor	δ	0.0025	Rise Time	t_r	0.35ns
Rise Time of Reverse Pulse	t_r	0.6ns	Circuit Capacitance*	C	<1pF