



BAS19 THRU BAS21

Small Signal Diodes 350mW

Features

- Ideally Suited for Automatic Insertion
- 150°C Junction Temperature
- Fast Switching speed
- Epitaxial Planar Die Construction
- Lead Free Finish/Rohs Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Halogen free available upon request by adding suffix "-HF"

Mechanical Data

- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Weight: 0.008 grams (approx.)

MCC Part Number	Marking	Continuous Reverse Voltage V_R (V)	Repetitive Peak Reverse Voltage V_{RRM} (V)
BAS19	JP	100	120
BAS20	JR	150	200
BAS21	JS	200	250

Maximum Ratings @ 25°C Unless Otherwise Specified

Parameter	Symbol	Value	Unit
Non-repetitive Peak Forward Surge Current @ $t=1\mu s$	I_{FSM}	2.5	A
Average Rectified Forward Current	$I_{F(AV)}$	200 ⁽¹⁾	mA
Forward DC Current at $T_{amb}=25^\circ C$	I_F	200 ⁽²⁾	mA
Repetitive Peak Forward Current	I_{FRM}	625	mA
Power Dissipation up to $T_{amb}=25^\circ C$	P_{tot}	350	mW
Thermal Resistance ⁽³⁾	R_{thJA}	357	°C/W
Operating & Storage Temperature	T_j, T_{STG}	-65~150	°C

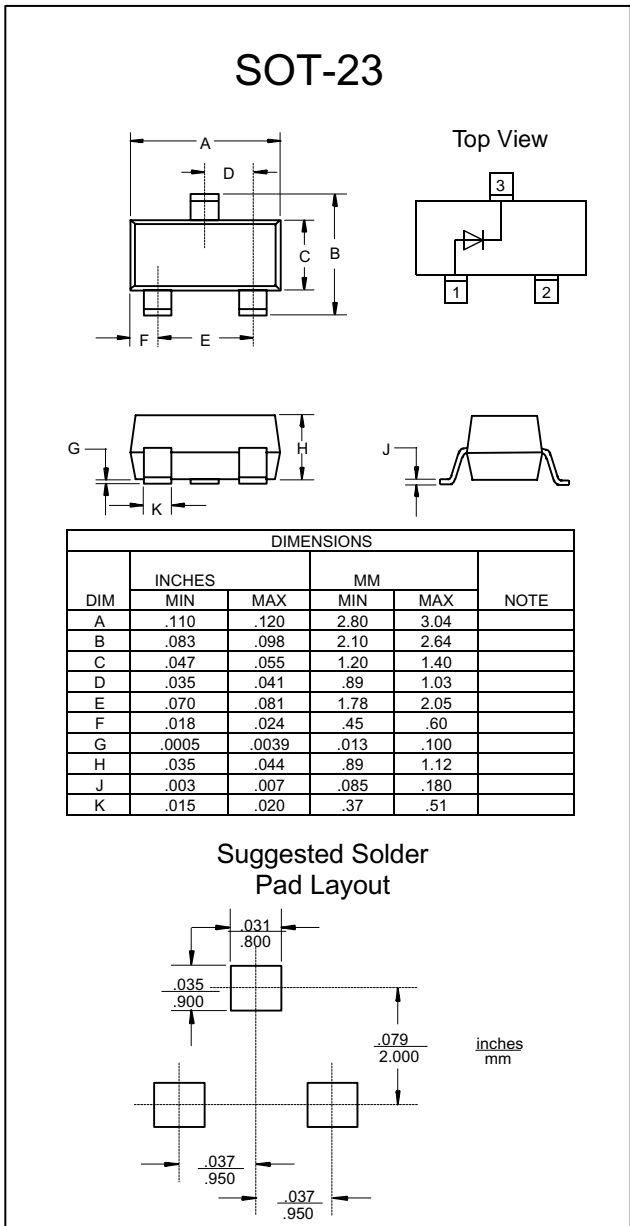
Notes: (1) Measured under pulse conditions;

Pulse time = $t_p \leq 0.3ms$

(2) Device on fiberglass substrate,

See layout on next page

(3) Mounted on FR-4 board with recommended pad layout.



BAS19 thru BAS21

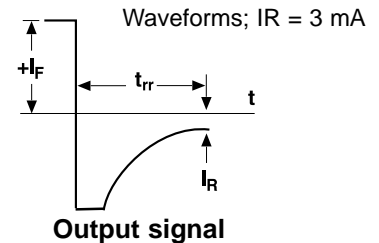
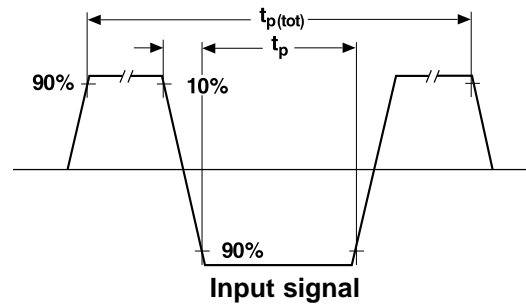
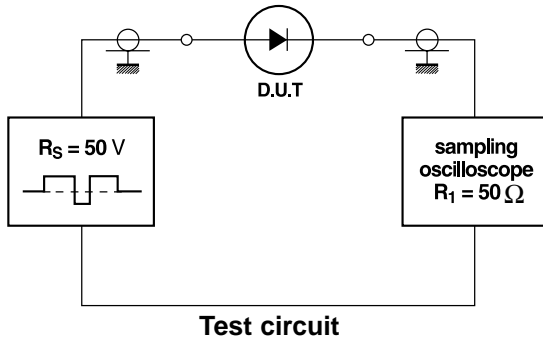
Electrical Characteristics

(T_J = 25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Forward Voltage	V _F	I _F = 100mA	—	—	1.0	V
		I _F = 200mA	—	—	1.25	V
Leakage Current	I _R	V _R = V _{Rmax}	—	—	100	nA
		V _R = V _{Rmax} ; T _j = 150°C	—	—	100	μA
Dynamic Forward Resistance	r _f	I _F = 10mA	—	5	—	Ω
Capacitance	C _{tot}	V _R = 0 f = 1MHz	—	—	5	pF
Reverse Recovery Time (see figures)	t _{rr}	I _F = 30mA, I _R = 30mA I _{rr} = 3mA, R _L = 100Ω	—	—	50	ns

(1) Device on fiberglass substrate, see layout (SOT-23).

Test Circuit and Waveforms (BAS19, BAS20, BAS21)

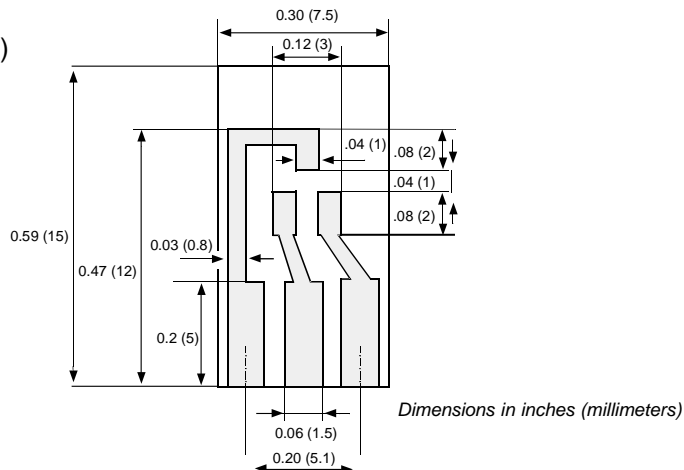


Input Signal	- total pulse duration - duty factor - rise time of reverse pulse - reverse pulse duration	tp(tot) = 2μs δ = 0.0025 tr = 0.6ns tp = 100ns
Oscilloscope	- rise time - circuit capacitance*	tr = 0.35ns C < 1pF

*C = oscilloscope input capacitance + parasitic capacitance

Layout for R_{ΘJA} test

Thickness: Fiberglass 0.059 in. (1.5 mm)
Copper leads 0.012 in. (0.3 mm)





Micro Commercial Components

Ordering Information :

Device	Packing
Part Number-TP	3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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