



# BAS19 / BAS20 / BAS21

## Surface Mount Fast Switching Diode



Voltage Range  
100/150/200 Volts  
250m Watts Power Dissipation

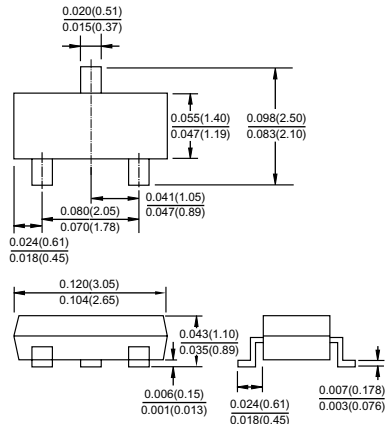
### Features

- ✧ Fast switching speed
- ✧ Surface mount package ideally suited for automatic insertion
- ✧ For general purpose switching applications
- ✧ High conductance

### Mechanical Data

- ✧ Case: SOT-23, Molded plastic
- ✧ Terminals: Solderable per MIL-STD-202, Method 208
- ✧ Polarity: See diagram
- ✧ BAS19 Marking: A8
- ✧ BAS20 Marking: A81
- ✧ BAS21 Marking: A82
- ✧ Weight: 0.008 gram (approx.)

### SOT-23



### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

#### Maximum Ratings

Type Number	Symbol	BAS19	BAS20	BAS21	Units
Repetitive Peak Reverse Voltage	VRRM	120	200	250	V
Working Peak Reverse Voltage	VRWM				
DC Blocking Voltage	VR	100	150	200	V
RMS Reverse Voltage	VR(RMS)	71	106	141	V
Forward Continuous Current (Note 1)	IFM	400			mA
Average Rectifier Output Current (Note 1)	Io	200			mA
Non-Repetitive Peak Forward Surge Current @ t=1.0uS @ t=1.0S	IFSM	2.5 0.5			A
Repetitive Peak Forward Surge Current	IFRM	625			mA
Power Dissipation (Note 1)	Pd	250			mW
Thermal Resistance Junction to Ambient Air (Note 1)	R <sub>θJA</sub>	500			K/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to + 150			°C

#### Electrical Characteristics

Type Number	Symbol	Min	Max	Units
Forward Voltage IF=100mA IF= 200mA	V <sub>F</sub>	-	1.0 1.25	V
Peak Reverse Current T <sub>J</sub> =25 °C T <sub>J</sub> =100°C	I <sub>R</sub>	-	100 15	nA uA
Junction Capacitance VR=0, f=1.0MHz	C <sub>j</sub>	-	5.0	pF
Reverse Recovery Time (Note 2)	t <sub>rr</sub>	-	50	nS

Notes: 1. Valid Provided that Terminals are Kept at Ambient Temperature.

2. Reverse Recovery Test Conditions: IF=IR=10mA, I<sub>rr</sub>=0.1 x I<sub>R</sub>, R<sub>L</sub>=100Ω.

## RATINGS AND CHARACTERISTIC CURVES (BAS19 THRU BAS21)

FIG.1- FORWARD CHARACTERISTICS

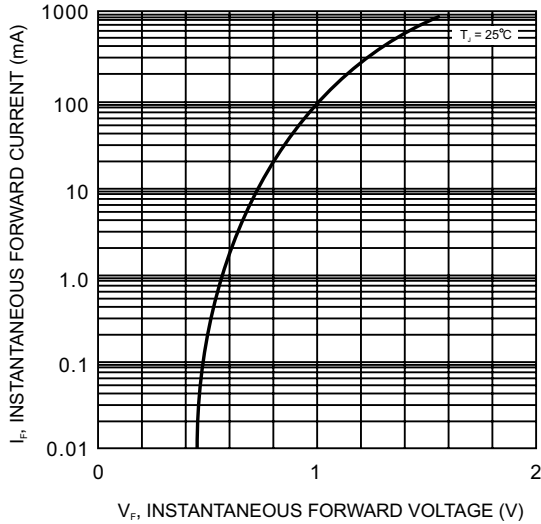
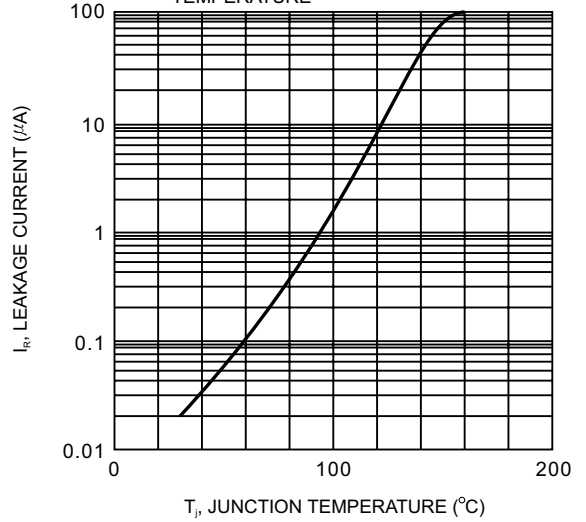


FIG.2- LEAKAGE CURRENT VS JUNCTION TEMPERATURE





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