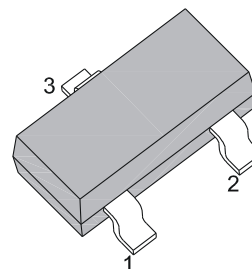


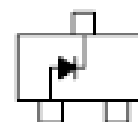
## Three Terminals SMD Switching Diodes

### Features

- Fast switching speed
- Surface mount package ideally suited for automatic insertion
- Electrically Identical to Standard JEDEC
- High conductance
- RoHS compliant



SOT-23



### Mechanical Data

<b>Case:</b>	SOT-23, Plastic Case
<b>Terminals:</b>	Solderable per MIL-STD-202G, Method 208
<b>Weight:</b>	Approx. 0.008 gram

### Maximum Ratings ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	BAS19	BAS20	BAS21	Unit	Conditions
	Marking Code	A8	A80	A82		
<b>V<sub>R</sub></b>	Reverse Voltage	100	150	200	V	
<b>V<sub>RRM</sub></b>	Peak Reverse Voltage	120	200	250	V	
<b>I<sub>F(AV)</sub></b>	Average Forward Rectified Current	0.2			A	Half Wave Rectification with Resistive Load and $f \geq 50\text{Hz}$
<b>I<sub>FSM</sub></b>	Peak Forward Surge Current	2.5			A	$t = 1.0\mu\text{s}$
<b>P<sub>D</sub></b>	Power Dissipation	250			mW	Derate above 25° C
<b>R<sub>thJA</sub></b>	Thermal Resistance from Junction to Ambient Air	500			° C/W	
<b>T<sub>J</sub>, T<sub>STG</sub></b>	Operating Junction and Storage Temperature Range	-55 to +150			° C	

# Three Terminals SMD Switching

## BAS19/BAS20/BAS21

### Electrical Characteristics ( $T_{Ambient}=25^{\circ}\text{C}$ unless noted otherwise)

Symbol	Description	BAS19	BAS20	BAS21	Unit	Conditions
<b>V<sub>F</sub></b>	Forward Voltage		1.0		V	I <sub>F</sub> =0.1A
<b>I<sub>R</sub></b>	DC Reverse Current at Rated DC Blocking Voltage		0.1		μA	T <sub>J</sub> =25° C
<b>C<sub>T</sub></b>	Total Capacitance		5.0		pF	V <sub>R</sub> =0V, f=1.0MHz
<b>T<sub>rr</sub></b>	Reverse Recovery Time		50		nS	From I <sub>F</sub> =10mA to I <sub>R</sub> =1mA, V <sub>R</sub> =6V R <sub>L</sub> =100Ω

### Typical Characteristics Curves

Fig.1- Power Derating Curve

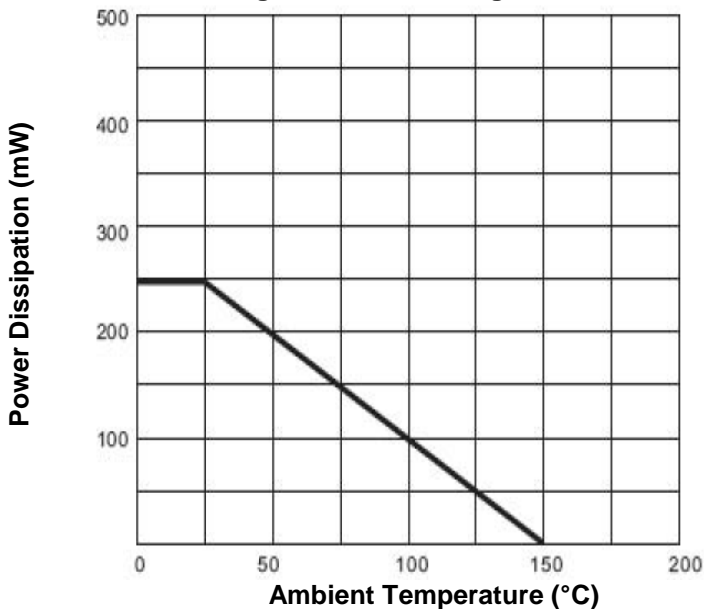
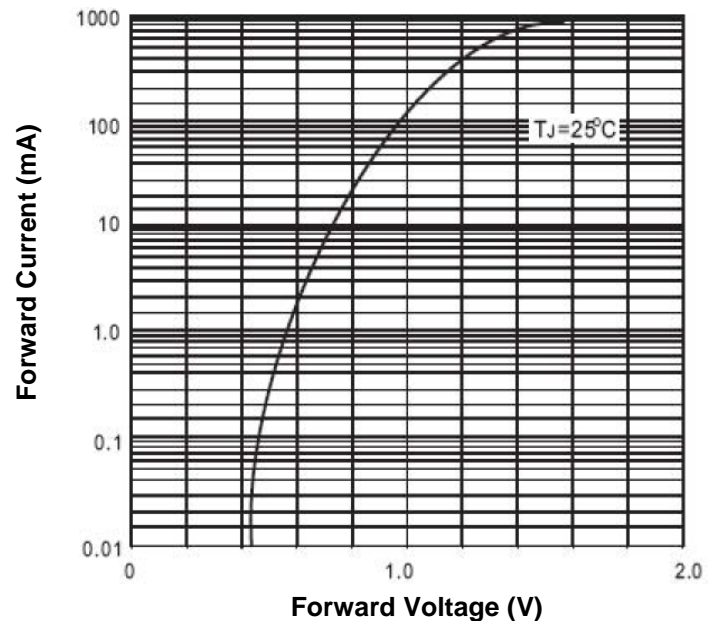


Fig.2- Typical Forward Characteristics



## BAS19/BAS20/BAS21

Fig.3-Leakage Current vs. Junction Temperature

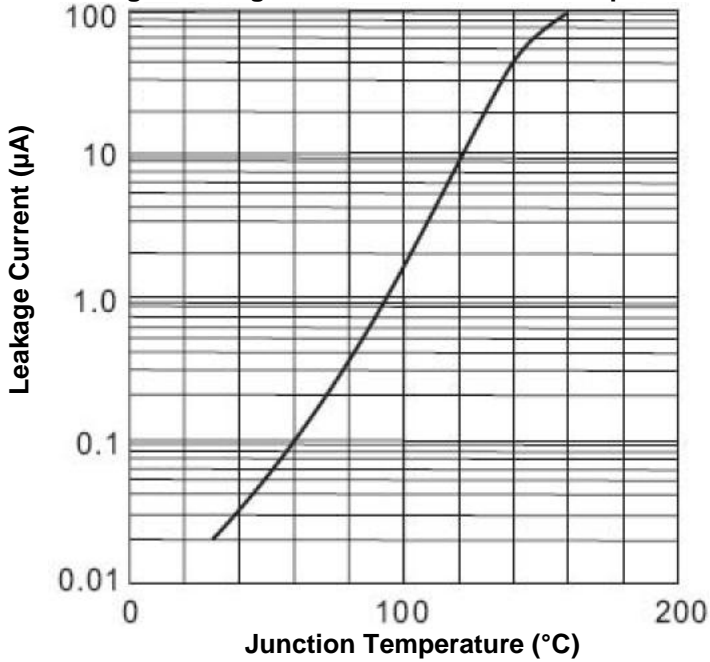
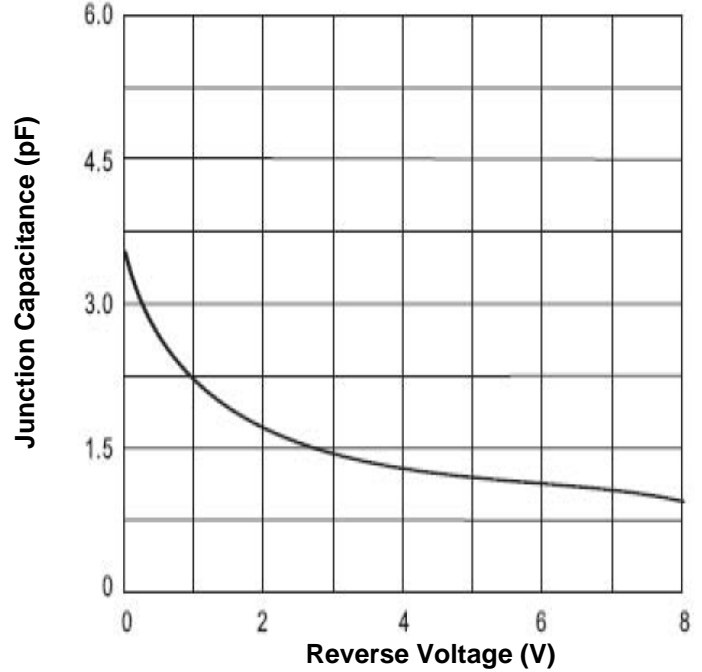
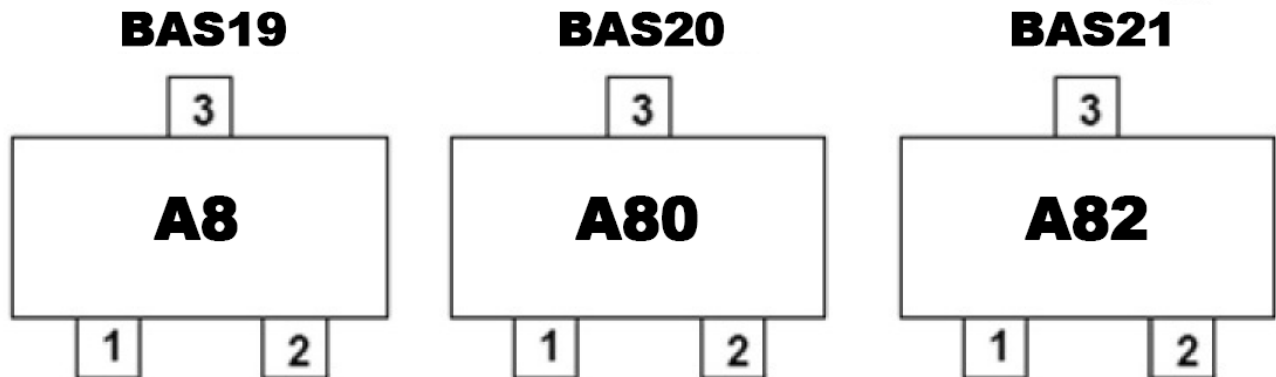


Fig.4- Typical Junction Capacitance

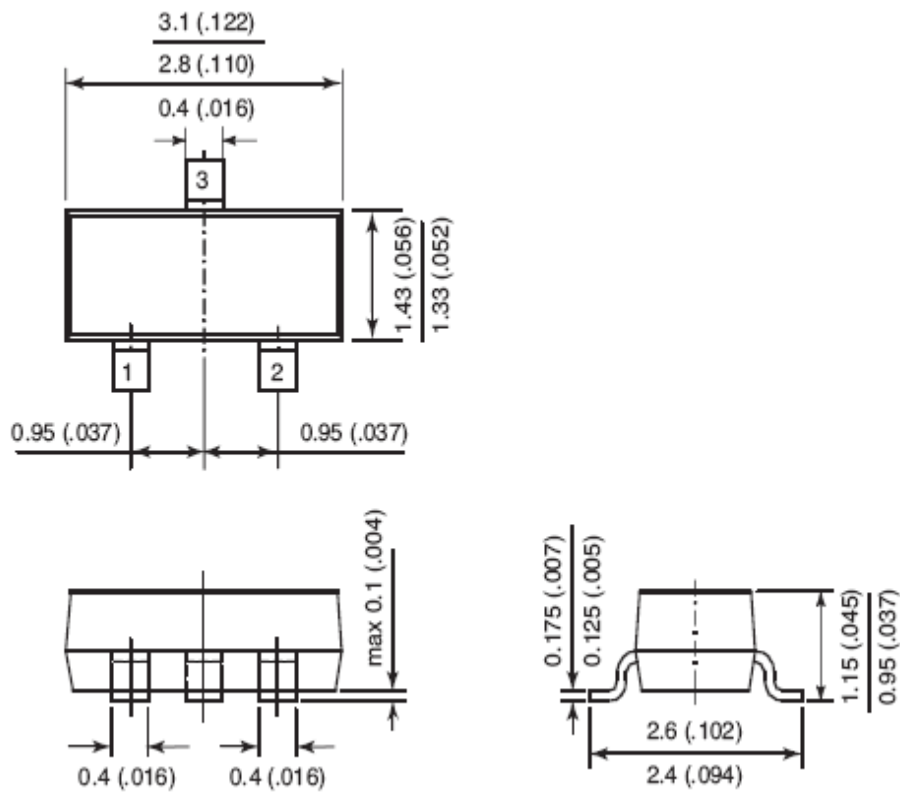


### Marking Information:

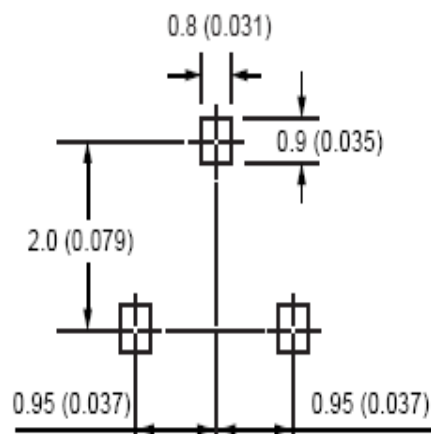


### Dimensions in mm (inch)

### SOT-23

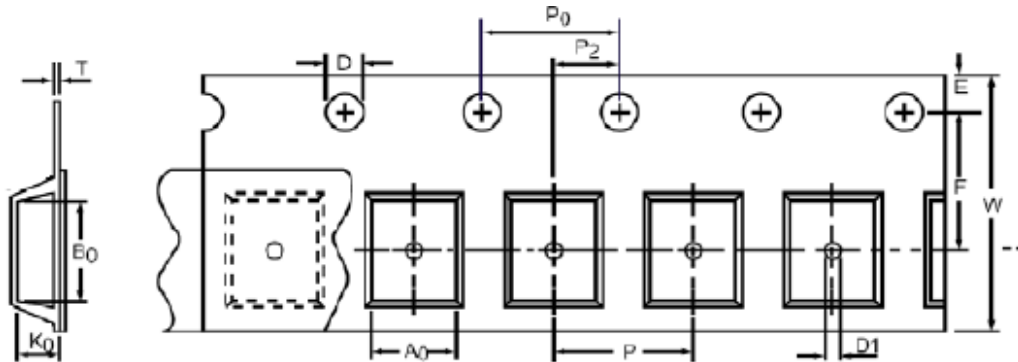


### Mounting Pad Layout in mm (inch)



### Packing Information:

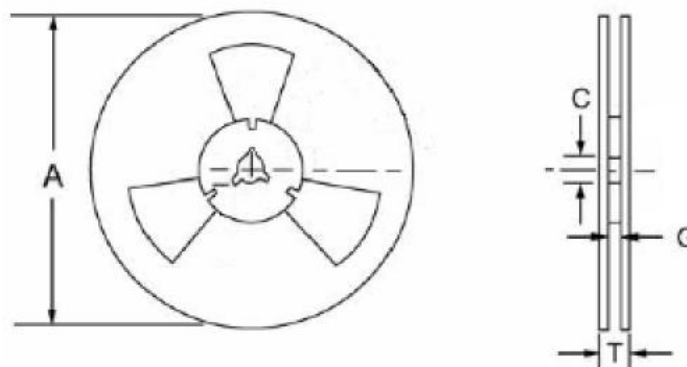
#### Carrier Tape Dimensions (in mm)



Product Type	A0	B0	K0	D	P0	P
	See Note			1.55±0.5	4.0±0.1	4.0±0.1
SOT-23	W	E	T	D1	F	P2
	8.0+0.3/-0.1	1.75±0.1	0.38±0.1	1.0±0.05	3.5±0.5	2.0±0.05

**Note:** Symbol A0, B0, K0 are determined by the maximum dimensions of the component size. The clearance between the component and the cavity must be within 0.05 mm (0.002") min. to 0.50 mm (0.02") max. for 8 mm tape.

#### Reel Dimensions (in mm)



A	C	G	T
178.0±2.0	13.0±0.5	8.4±2.0	14.4 max.

### Packing Quantity Information:

Quantity	PCS per Inner Box	PCS per Inner Carton
TR70 Tape & Reel	3000/Reel	240000

### Inner Carton Size Information:

Cartoon Size
390X270X400 (in mm)

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