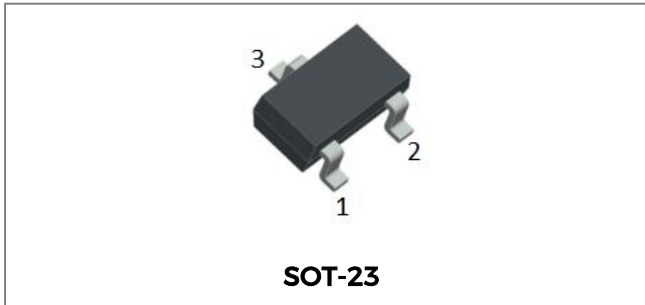


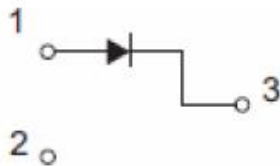
## BAS19-BAS21 SWITCHING DIODE



### Features

- High Conductance
- Fast Switching
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose and Switching Application
- This is a Halogen Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request
- “-A” is an AEC-Q101 qualified device

### Schematic & Pin Configuration



### Mechanical Characteristics

- Case: SOT-23, Molded plastic
- Terminals: Plated leads solderable per MIL-STD-202, Method 208

### Maximum Ratings@T<sub>A</sub>=25°C unless otherwise specified

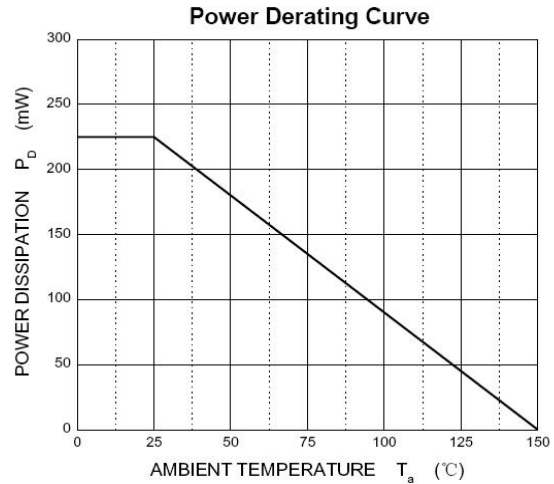
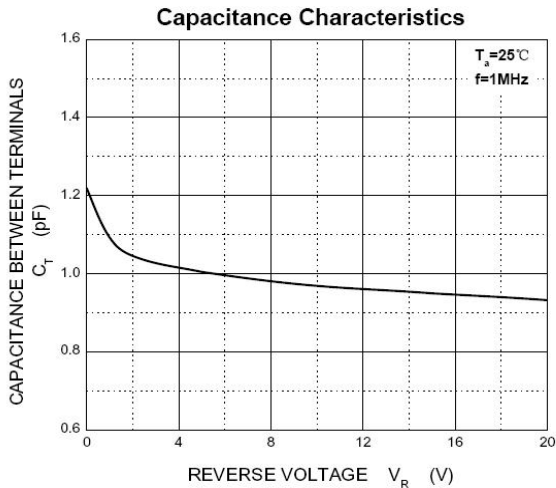
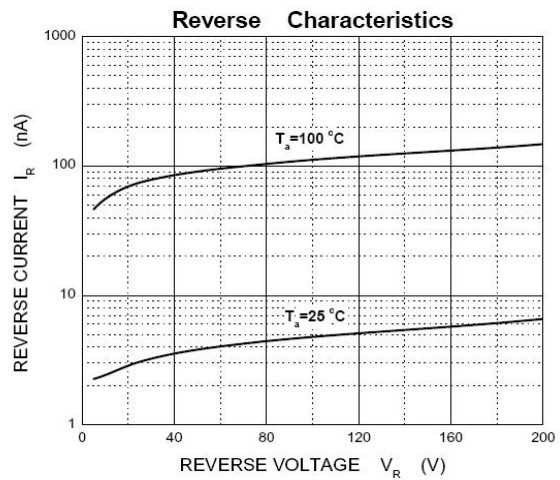
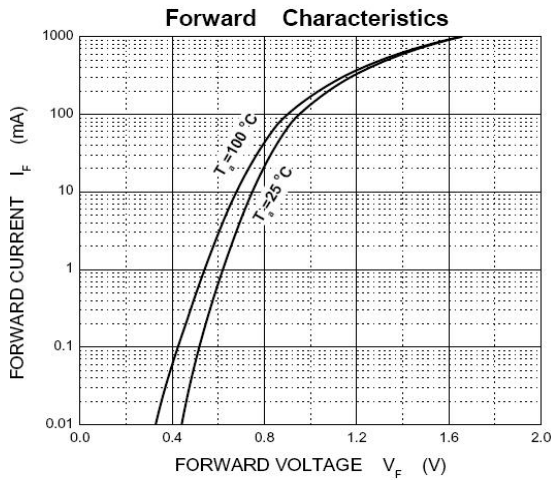
Characteristic	Symbol	BAS19	BAS20	BAS21	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	120	200	250	V
Working Peak Reverse Voltage	V <sub>RWM</sub>	100	150	200	V
Average Rectified Output Current	I <sub>O</sub>	200			mA
Forward continuous current	I <sub>FM</sub>	400			mA
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	2.5			A
Power Dissipation	P <sub>d</sub>	225			mW
Typical Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	555			°C/W
Junction Temperature Range	T <sub>J</sub>	150			°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150			°C

**Electrical Characteristics@T<sub>A</sub>=25°C unless otherwise specified**

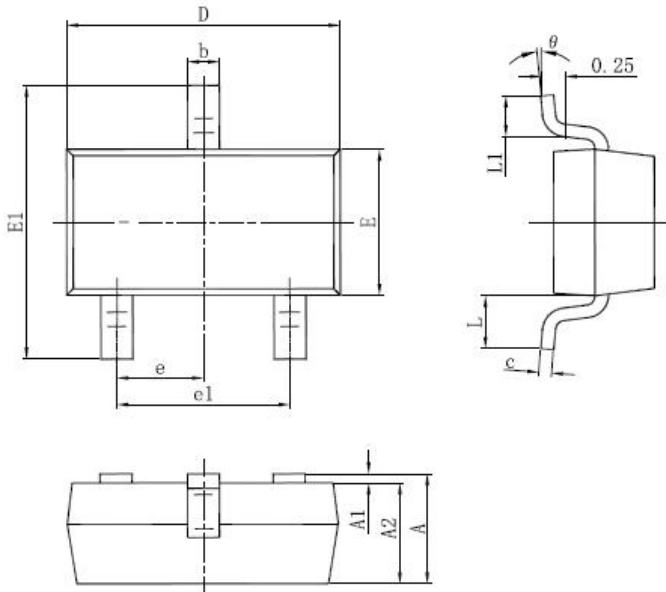
Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse breakdown voltage*	BAS19 BAS20 BAS21	V <sub>BR</sub> I <sub>R</sub> =100μA	120 200 250	-	-	V
Forward Voltage*	V <sub>F</sub>	I <sub>F</sub> =100mA I <sub>F</sub> =200mA	-	0.95 1.06	1.00 1.25	V
Reverse Leakage Current*	BAS19 BAS20 BAS21	I <sub>R</sub> V <sub>R</sub> =100V V <sub>R</sub> =150V V <sub>R</sub> =200V	-	0.007	0.1	μA
Diode capacitance	C <sub>T</sub>	V <sub>R</sub> =0V, f=1.0MHz	-	1.2	5	pF
Reverse recovery time	t <sub>rr</sub>	I <sub>F</sub> = I <sub>R</sub> =30mA, I <sub>tr</sub> =0.1×I <sub>R</sub> , R <sub>L</sub> =100Ω	-	-	50	ns

\* Pulse width < 300 μs, duty cycle < 2%

**Ratings and Characteristics Curves**

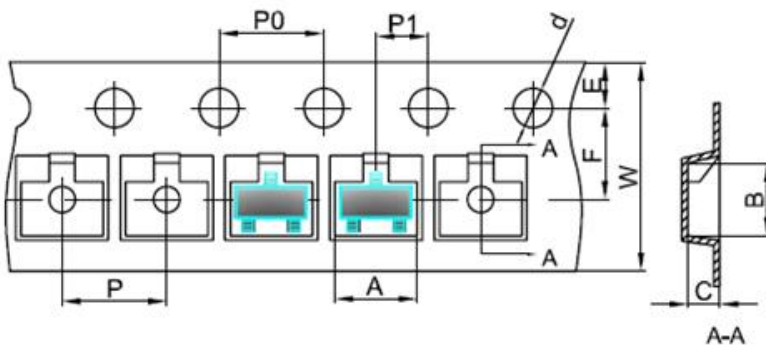


**Mechanical Dimensions SOT-23**



SYMBOL	Millimeters		Inches	
	MIN.	MAX.	MIN.	MAX.
A	0.890	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.076	0.170	0.003	0.007
D	2.650	3.050	0.104	0.120
E	1.190	1.400	0.047	0.055
E1	2.100	2.550	0.083	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.780	2.050	0.070	0.081
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

**Carrier Tape Specification SOT-23**



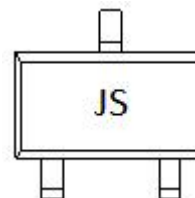
SYMBOL	Millimeters	
	Min.	Max.
A	3.05	3.25
B	2.67	2.87
C	1.12	1.32
d	1.40	1.60
E	1.65	1.85
F	3.40	3.60
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
W	7.90	8.30

**Ordering Information**

Device	Package	Shipping
BAS19-BAS21	SOT-23	3000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel Packaging specification.

**Marking Diagram**



Marking before 16441(Date Code)

Part Number	Device Marking Code
BAS19	A8
BAS20	A80
BAS21	A82

Marking from 16441(Date Code)

Part Number	Device Marking Code
BAS19	JP
BAS20	JR
BAS21	JS

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