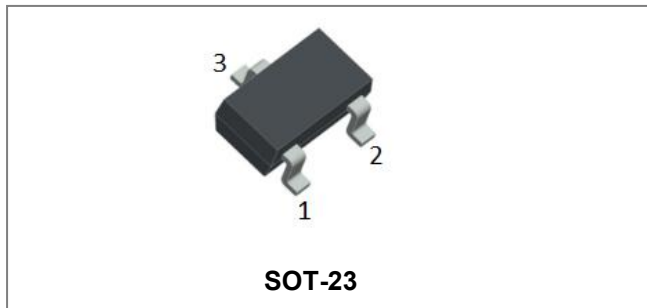




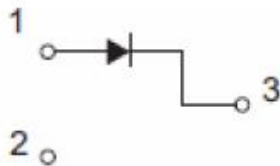
## BAS19-BAS21 SWITCHING DIODE



### Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance
- This is a Halogen Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Schematic & Pin Configuration



### Mechanical Characteristics

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

### Maximum Ratings@ $T_A=25^\circ\text{C}$ unless otherwise specified

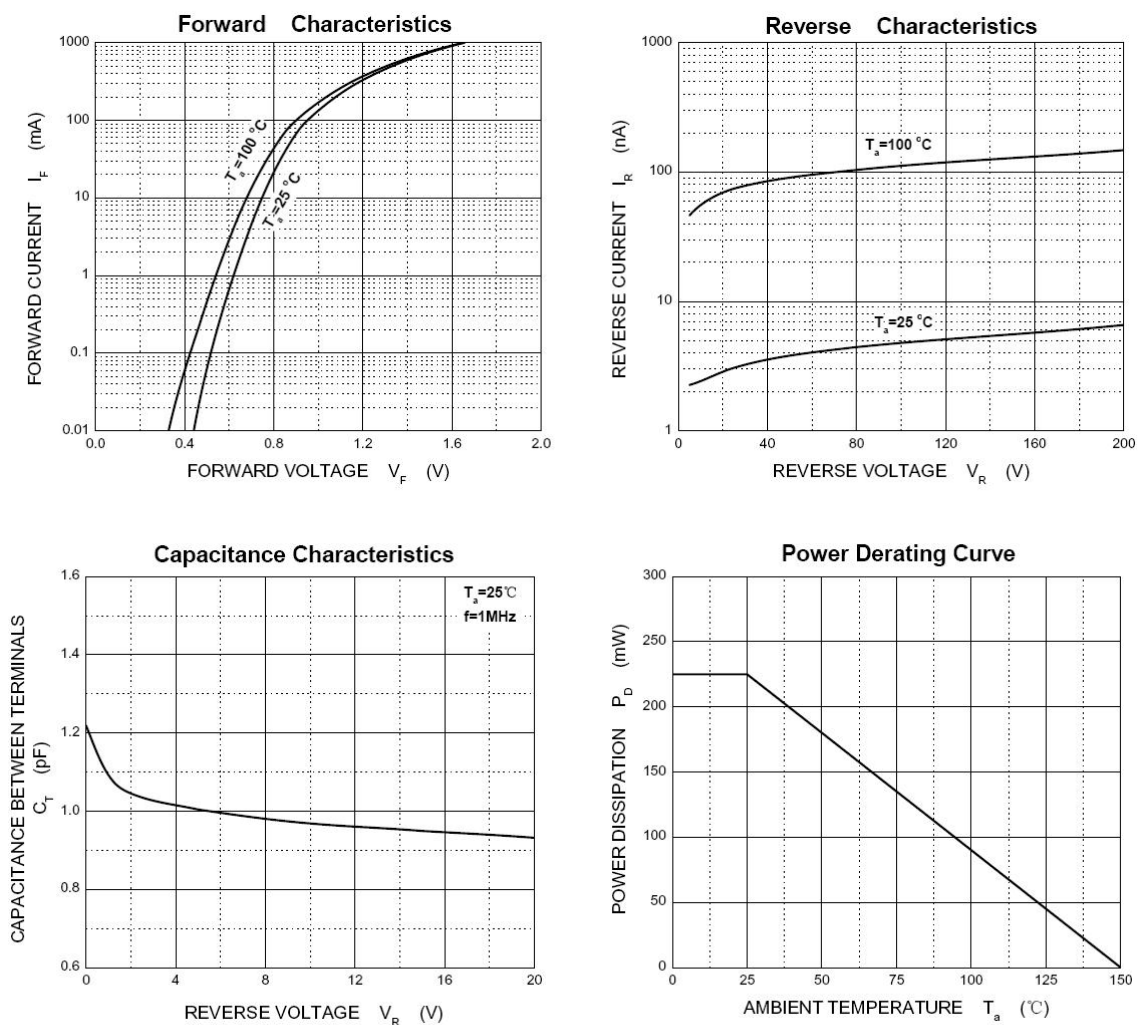
Characteristic	Symbol	BAS19	BAS20	BAS21	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	120	200	250	V
Working Peak Reverse Voltage	$V_{RWM}$	100	150	200	V
Average Rectified Output Current	$I_O$	200			mA
Forward continuous current	$I_{FM}$	400			mA
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	2.5			A
Power Dissipation	$P_d$	225			mW
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	555			$^\circ\text{C}/\text{W}$
Junction Temperature Range	$T_J$	150			$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150			$^\circ\text{C}$

**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>rr</sub> =0.1×I <sub>R</sub> , R <sub>L</sub> =100 Ω	-	50	ns

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

**Ratings and Characteristics Curves**

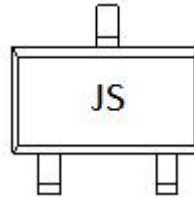


Ordering Information

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



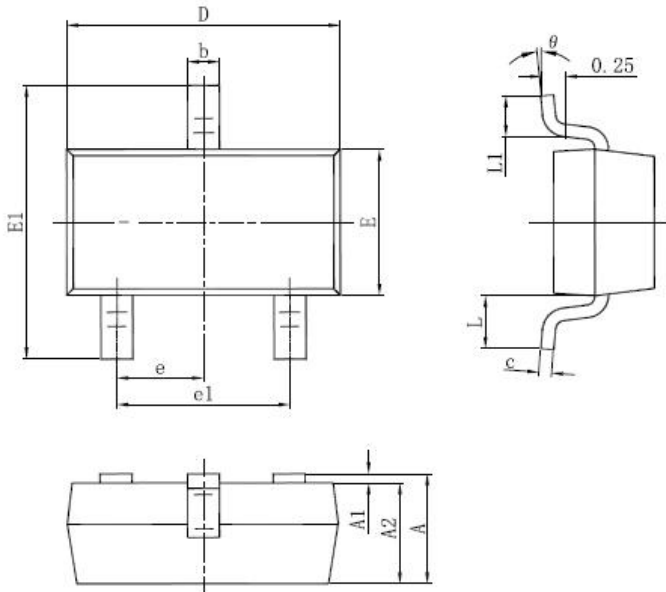
Marking before 16441(Date Code)

Part Number	Device Code	Marking
BAS19	A8	
BAS20	A80	
BAS21	A82	

Marking from 16441(Date Code)

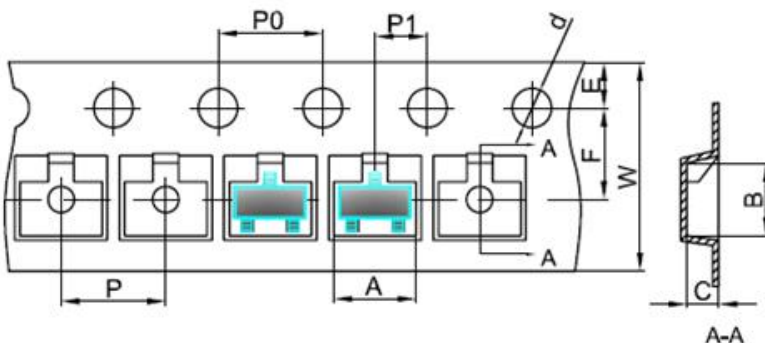
Part Number	Device Code	Marking
BAS19	JP	
BAS20	JR	
BAS21	JS	

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

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