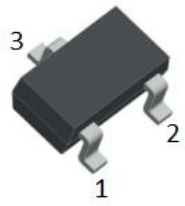
Technical Data
Data Sheet N0586, Rev. B

BAS19-BAS21 SWITCHING DIODE

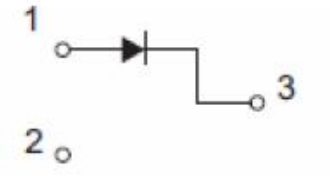


SOT-23

Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance
- This is a Pb - 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°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			°C/W
Junction Temperature Range	T_J	150			°C
Storage Temperature Range	T_{STG}	-55 to +150			°C

Technical Data
Data Sheet N0586, Rev. B

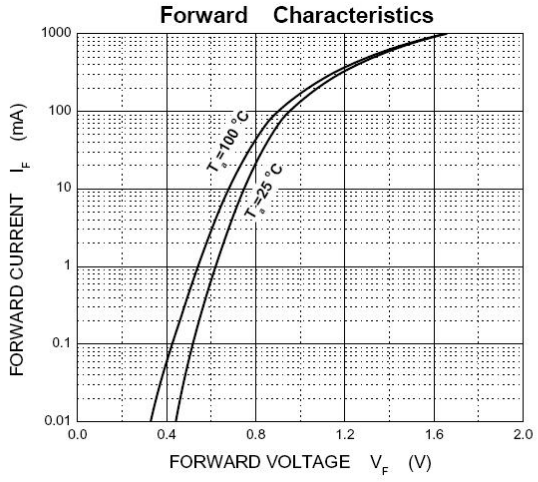
RoHS

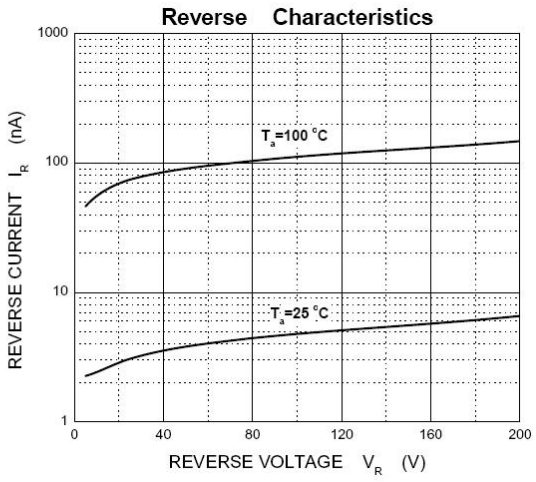
Electrical Characteristics@T_A=25°C unless otherwise specified

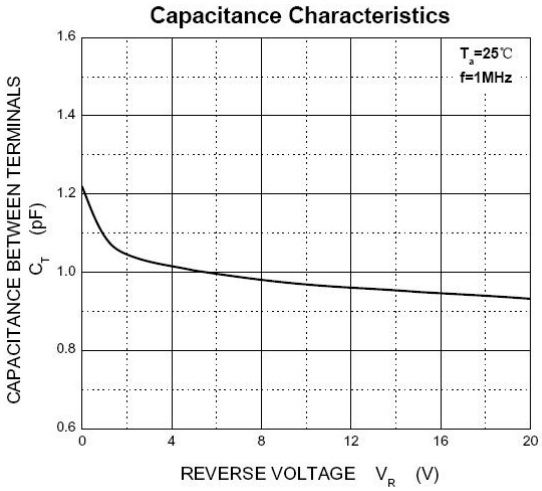
Characteristic		Symbol	Test Condition	Min	Typ	Max	Unit
Reverse breakdown voltage*	BAS19 BAS20 BAS21	V_{BR}	I_R=100μA	120 200 250	-	-	V
Forward Voltage*		V_F	I_F=100mA I_F=200mA	-	0.95 1.06	1.00 1.25	V
Reverse Leakage Current*	BAS19 BAS20 BAS21	I_R	V_R=100V V_R=150V V_R=200V	-	0.007	0.1	μA
Diode capacitance		C_T	V_R=0V,f=1.0MHz	-	1.2	5	pF
Reverse recovery time		t_{rr}	I_F= I_R=30mA, I_{rr}=0.1×I_R,R_L=100Ω	-	-	50	ns

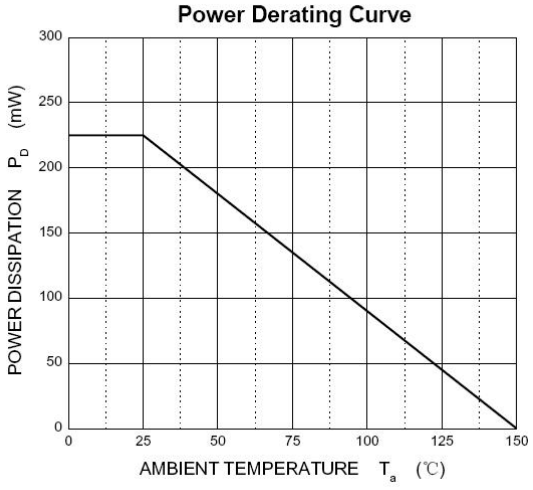
* Pulse width < 300 μs, duty cycle < 2%

Ratings and Characteristics Curves









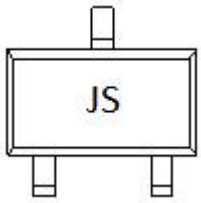
Technical Data
Data Sheet N0586, Rev. B

Ordering Information

Device	Package	Shipping
BAS19-BAS21	SOT-23 (Pb-Free)	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



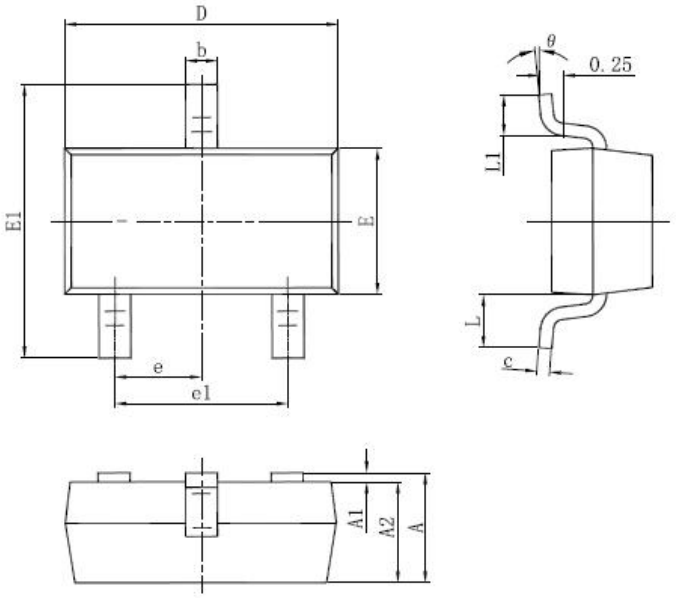
Marking before 16441(Date Code)

Part Number	Device Marking Code
BAS19	A8
BAS20	A80
BAS21	A82

Marking from 16441(Date Code)

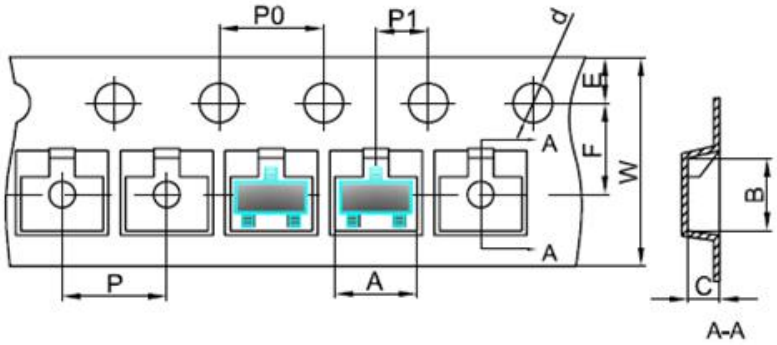
Part Number	Device Marking Code
BAS19	JP
BAS20	JR
BAS21	JS

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

Technical Data
Data Sheet N0586, Rev. B

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