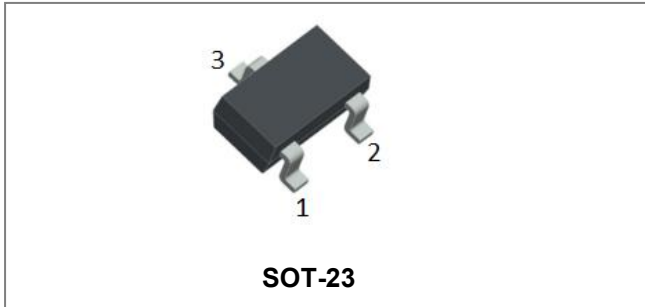


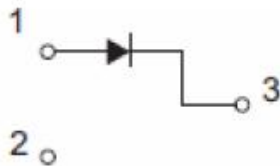
BAS19-BAS21 SWITCHING DIODE



Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance
- This is a 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 _{θJA}	555			°C/W
Junction Temperature Range	T _J	150			°C
Storage Temperature Range	T _{STG}	-55 to +150			°C

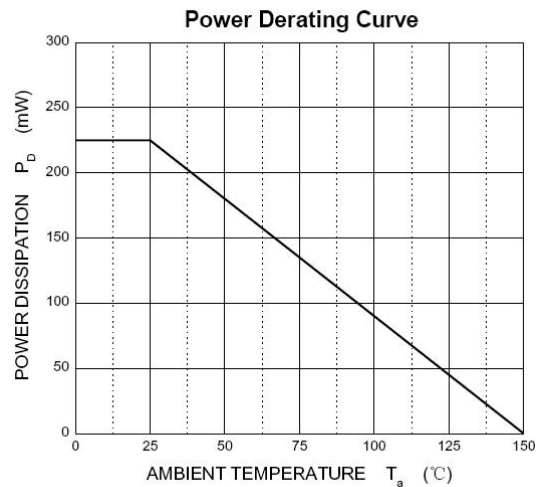
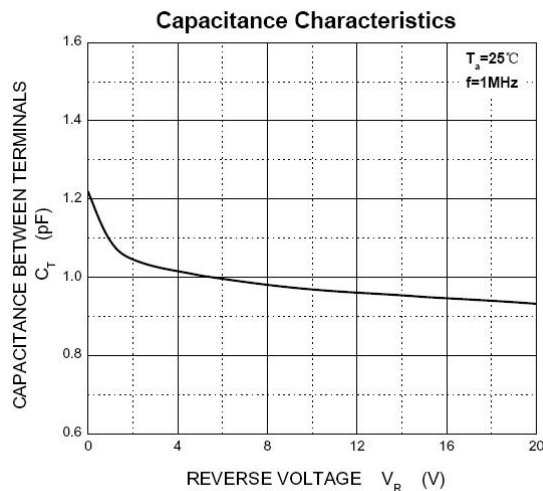
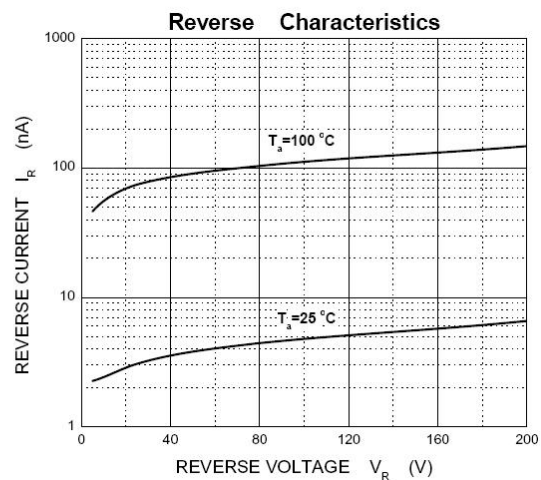
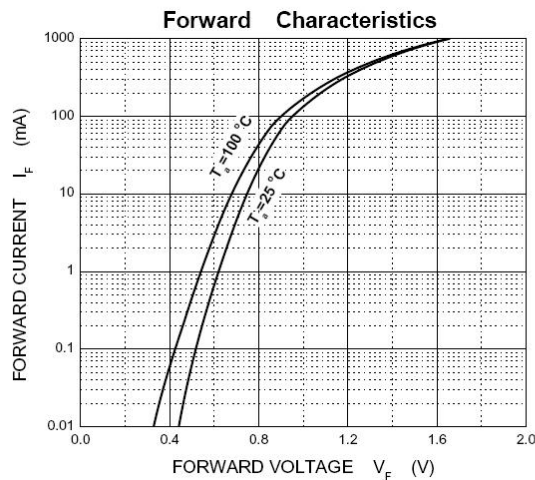


Electrical Characteristics@T_A=25°C unless otherwise specified

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 =100 Ω	-	50	ns

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

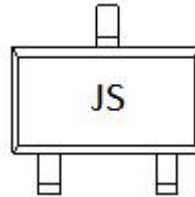
Ratings and Characteristics Curves



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.

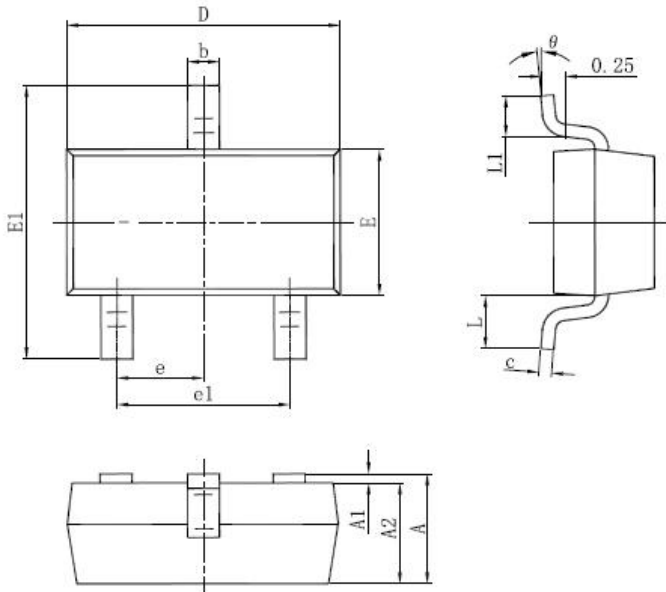
Marking Diagram


Marking before 16441(Date Code)

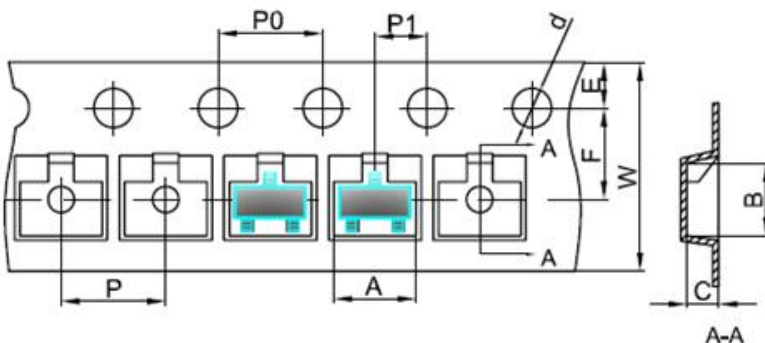
Part Number	Device Code	Marking
BAS19	A8	
BAS20	A80	
BAS21	A82	

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



DISCLAIMER:

1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the SMC - Sangdest Microelectronics (Nanjing) Co., Ltd sales department for the latest version of the datasheet(s).

2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.

3- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). SMC - Sangdest Microelectronics (Nanjing) Co., Ltd assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.

4- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.

5- No license is granted by the datasheet(s) under any patents or other rights of any third party or SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.

6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.

7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations..