

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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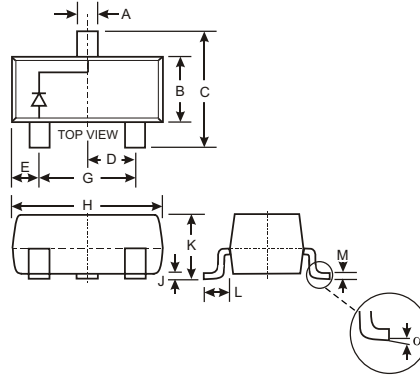
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance
- Available in Lead Free/RoHS Compliant Version (Note 3)

Mechanical Data

- Case: SOT-23
- Case Material: UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe). Please See Ordering Information, Note 5, on Page 3
- Polarity: See Diagram
- BAS19 Marking: KA8, KT3, KT2 (See Page 3)
- BAS20 Marking: KT2, KT3 (See Page 3)
- BAS21 Marking: KT3 (See Page 3)
- Weight: 0.008 grams (approx.)



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	BAS19	BAS20	BAS21	Unit
Repetitive Peak Reverse Voltage	V _{RRM}	120	200	250	V
Working Peak Reverse Voltage DC Blocking Voltage	V _{RWM} V _R	100	150	200	V
RMS Reverse Voltage	V _{R(RMS)}	71	106	141	V
Forward Continuous Current (Note 1)	I _{FM}		400		mA
Average Rectified Output Current (Note 1)	I _O		200		mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0μs @ t = 1.0s	I _{FSM}		2.5 0.5		A
Repetitive Peak Forward Surge Current (Note 1)	I _{FRM}		625		mA
Power Dissipation (Note 1)	P _d		250		mW
Thermal Resistance Junction to Ambient Air (Note 1)	R _{θJA}		500		°C/W
Operating and Storage Temperature Range	T _J , T _{STG}		-65 to +150		°C

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	BAS19 BAS20 BAS21 V _{(BR)R}	120 200 250	—	V	I _R = 100μA
Forward Voltage (Note 2)	V _F	—	1.0 1.25	V	I _F = 100mA I _F = 200mA
Reverse Current @ Rated DC Blocking Voltage (Note 2)	I _R	—	100 15	nA μA	T _J = 25°C T _J = 100°C
Total Capacitance	C _T	—	5.0	pF	V _R = 0, f = 1.0MHz
Reverse Recovery Time	t _{rr}	—	50	ns	I _F = I _R = 30mA, I _{rr} = 0.1 x I _R , R _L = 100Ω

- Note:
1. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 2. Short duration pulse test used to minimize self-heating effect.
 3. No purposefully added lead.

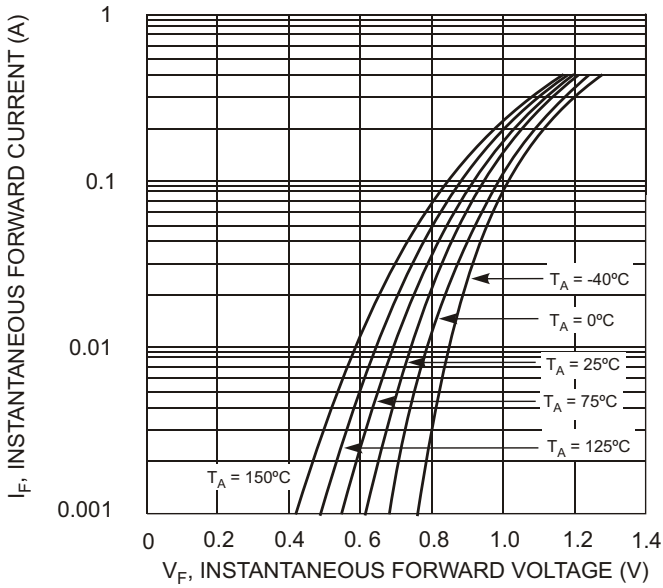


Fig. 1 Typical Forward Characteristics

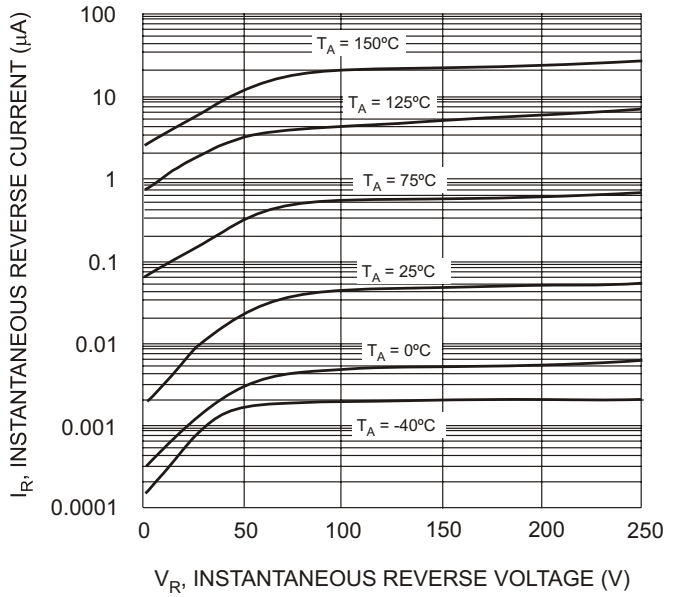


Fig. 2 Typical Reverse Characteristics

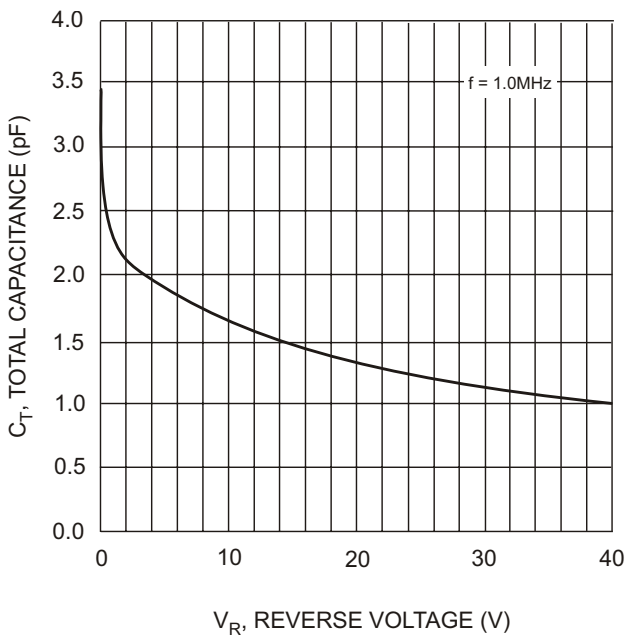


Fig. 3 Typical Capacitance vs. Reverse Voltage

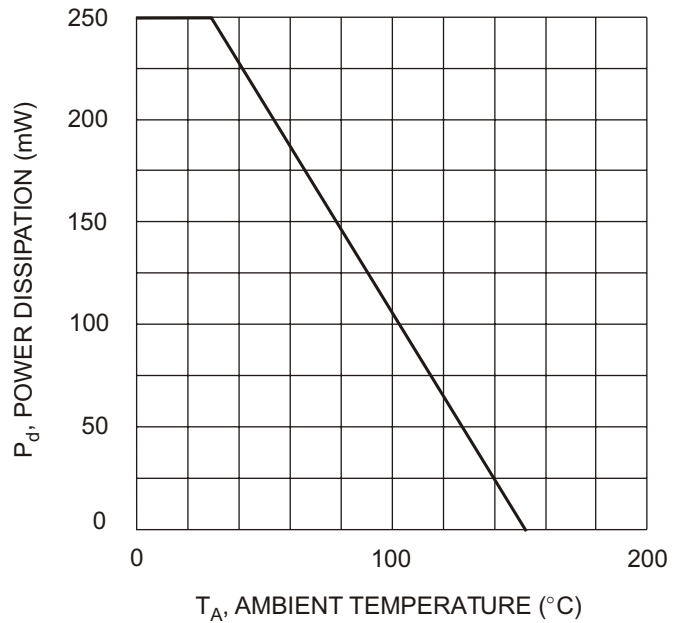


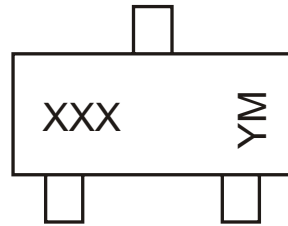
Fig. 4 Power Derating Curve, Total Package

Ordering Information (Note 4)

Device	Packaging	Shipping
BAS19-7 BAS20-7 BAS21-7	SOT-23	3000/Tape & Reel

- Notes:
- For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
 - For Lead Free/RoHS Compliant version part number, please add "-F" suffix to part number above.
Example: BAS21-7-F.

Marking Information



XXX = Product Type Marking Code (See Page 1)
 YM = Date Code Marking
 Y = Year ex: N = 2002
 M = Month ex: 9 = September

Date Code Key

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Code	L	M	N	P	R	S	T	U	V	W

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D