

200mA, 100-150V Surface Mount Fast Switching Diode

FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

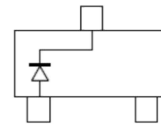
APPLICATIONS

- Switching mode power supply (SMPS)

MECHANICAL DATA

- Case: SOT-23
- Molding compound meets UL 94 V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Weight: 8± 0.5 mg (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	200	mA
V_{RRM}	100-150	V
V_F at $I_F=200mA$	1.25	V
$T_{J\ MAX}$	150	°C
Package	SOT-23	
Configuration	Single die	



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ C$ unless otherwise noted)				
PARAMETER	SYMBOL	BAS19	BAS20	UNIT
Marking code on the device		JP	JR	
Repetitive peak reverse voltage	V_{RRM}	100	150	V
Power dissipation	P_D	250		mW
Forward current	I_F	200		mA
Junction temperature range	T_J	-65 to +150		°C
Storage temperature range	T_{STG}	-65 to +150		°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	TYP	UNIT
Junction to ambient thermal resistance	$R_{\theta JA}$	500	°C/W

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER	CONDITIONS		SYMBOL	MIN	MAX	UNIT
Forward voltage ⁽¹⁾	$I_F = 100\text{mA}, T_J = 25^\circ\text{C}$		V_F	-	1.00	V
	$I_F = 200\text{mA}, T_J = 25^\circ\text{C}$				1.25	
Reverse voltage	BAS19	$I_R = 100\ \mu\text{A}, T_J = 25^\circ\text{C}$	V_R	100	-	V
	BAS20	$I_R = 100\ \mu\text{A}, T_J = 25^\circ\text{C}$		150	-	
Reverse current ⁽²⁾	BAS19	$V_R = 100\ \text{V}, T_J = 25^\circ\text{C}$	I_R	-	0.1	μA
	BAS20	$V_R = 150\ \text{V}, T_J = 25^\circ\text{C}$				
Junction capacitance	$f=1\ \text{MHz}, V_R=0\text{V}$		C_J	-	5	pF
Reverse recovery time	$I_F=I_R=30\text{mA}, I_{RR}=0.1 \times I_R$		t_{rr}	-	50	ns

Notes:

1. Pulse test with PW=0.3 ms
2. Pulse test with PW=30 ms

ORDERING INFORMATION		
ORDERING CODE	PACKAGE	PACKING
BASxx RF	SOT-23	3K / 7" Reel
BASxx RFG	SOT-23	3K / 7" Reel
BASxx R5	SOT-23	10K / 13" Reel
BASxx R5G	SOT-23	10K / 13" Reel
BASxx-B0 RF	SOT-23	3K / 7" Reel
BASxx-B0 RFG	SOT-23	3K / 7" Reel
BASxx-B0 R5	SOT-23	10K / 13" Reel
BASxx-B0 R5G	SOT-23	10K / 13" Reel

Notes:

1. "xx" is device code from "19" to "20"
2. "G" means green compound (halogen free)

CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.1 Forward Characteristics

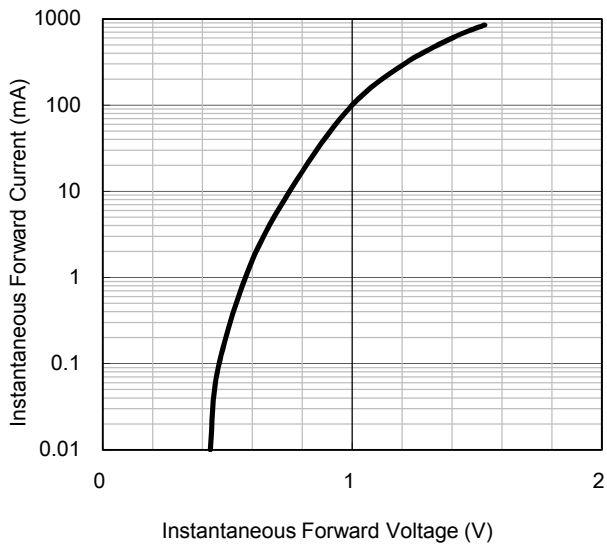
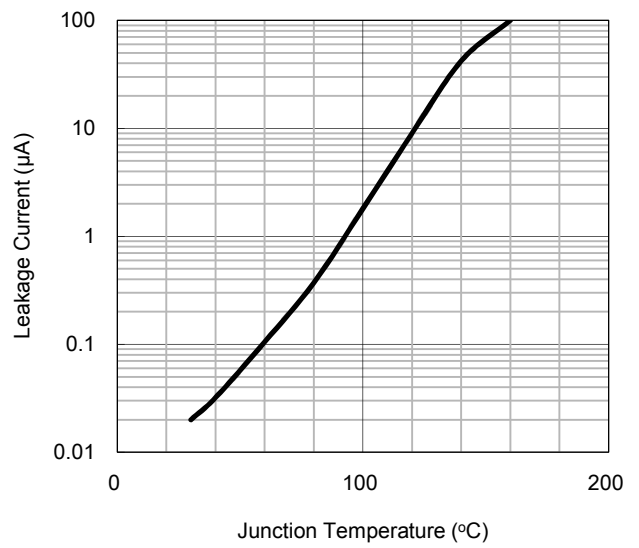
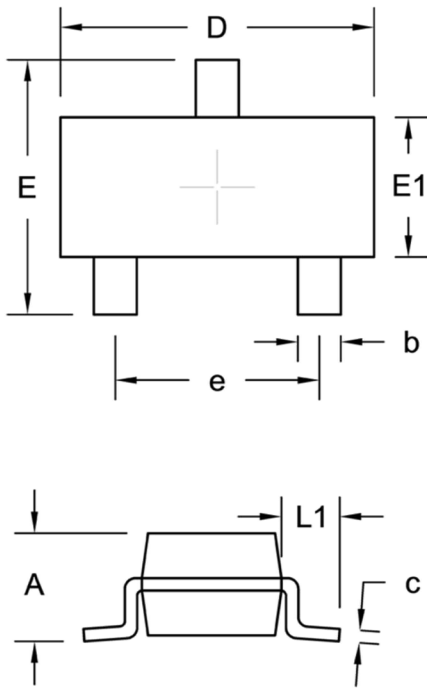


Fig.2 Leakage Current VS. Junction temperature



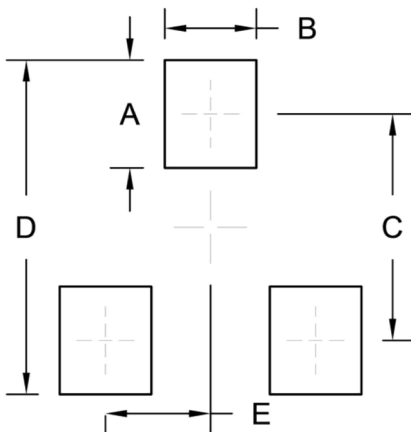
PACKAGE OUTLINE DIMENSION

SOT-23



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	0.89	1.12	0.035	0.044
b	0.30	0.50	0.012	0.020
c	0.08	0.20	0.003	0.008
D	2.80	3.04	0.110	0.120
E	2.10	2.64	0.083	0.104
E1	1.20	1.40	0.047	0.055
e	1.90 BSC		0.075 BSC	
L1	0.54 REF.		0.021 REF.	

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.00	0.039
B	0.85	0.033
C	2.10	0.083
D	3.10	0.122
E	0.98	0.039

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies.

Purchasers are solely responsible for the choice, selection, and use of TSC products and TSC assumes no liability for application assistance or the design of Purchasers' products.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Diodes - General Purpose, Power, Switching category:](#)

Click to view products by [Taiwan Semiconductor manufacturer:](#)

Other Similar products are found below :

[RD0306T-H](#) [BAV17-TR](#) [BAV19-TR](#) [1N3611](#) [NTE156A](#) [NTE525](#) [NTE571](#) [NTE574](#) [NTE5804](#) [NTE5806](#) [NTE6244](#) [1SS181-TP](#)
[1SS193,LF](#) [1SS400CST2RA](#) [SDAA13](#) [SHN2D02FUTW1T1G](#) [LS4151GS08](#) [1N4449](#) [1N456A](#) [1N4934-E3/73](#) [1N914B](#) [1N914BTR](#)
[RFUH20TB3S](#) [BAS 28 E6327](#) [BAV199-TP](#) [BAW56DWQ-7-F](#) [BAW75-TAP](#) [MM230L-CAA](#) [IDW40E65D1](#) [JAN1N3600](#) [LL4151-GS18](#)
[053684A](#) [SMMSD4148T3G](#) [707803H](#) [NSVDAN222T1G](#) [SP000010217](#) [ACDSW4448-HF](#) [CDSZC01100-HF](#) [BAV199E6433HTMA1](#)
[BAV70M3T5G](#) [SMBT2001T1G](#) [NTE5801](#) [NTE5800](#) [NTE5808](#) [NTE6240](#) [NTE6248](#) [DLM10C-AT1](#) [BAS28-7](#) [BAW56HDW-13](#) [BAS28](#)
[TR](#)