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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!



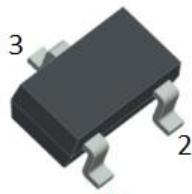
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## BAS16 SURFACE MOUNT FAST SWITCHING DIODE

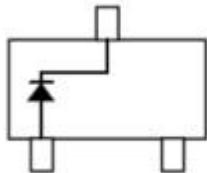


SOT-23

### Features

- High Conductance
- Fast Switching
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose and Switching
- Plastic Material – UL Recognition Flammability Classification 94V-O
- 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
- Polarity: See Diagram
- Weight: 0.008 grams(approx.)
- Mounting Position: Any
- Marking: A6

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

Characteristic	Symbol	Limits	Units
Non-Repetitive Peak Reverse Voltage	$V_{RM}$	100	V
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	75	V
Forward Continuous Current(Note 1)	$I_F$	300	mA
Average Rectified Output Current(Note 1)	$I_o$	200	mA
Peak Forward Surge Current(Note 1) @ $t < 1.0\text{us}$	$I_{FSM}$	2.0	A
Power Dissipation(Note 1)	$P_d$	350	mW
Typical Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	357	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150	$^\circ\text{C}$

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

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage*	$V_{(\text{BR})R}$	75	-	V	@ $I_{\text{BR}}=100\mu\text{A}$
Forward Voltage*	$V_F$	-	0.855	V	@ $I_F=10\text{mA}$
Reverse Leakage Current*	$I_R$	-	1.0	$\mu\text{A}$	@ $V_R=75\text{V}$
Junction Capacitance	$C_J$	-	2.0	$\text{pF}$	$V_R=0\text{V}$ , $f=1.0\text{MHz}$
Reverse Recovery Time	$t_{\text{rr}}$	-	6.0	ns	$I_F=I_R=10\text{mA}$ , $I_{\text{RR}}=0.1 \times I_R$ , $R_L=100\Omega$

\* Pulse width < 300  $\mu\text{s}$ , duty cycle < 2%

Note: 1. Device mounted on fiberglass substrate 40×40×1.5mm

### Ratings and Characteristics Curves

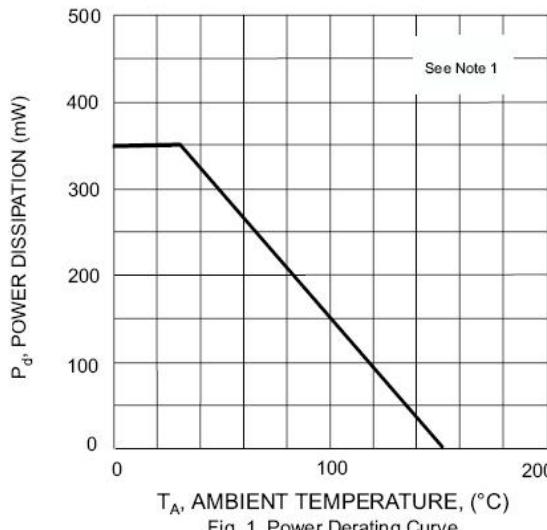


Fig. 1 Power Derating Curve

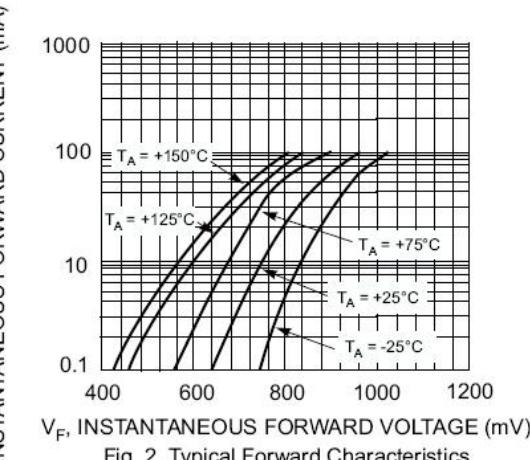


Fig. 2, Typical Forward Characteristics

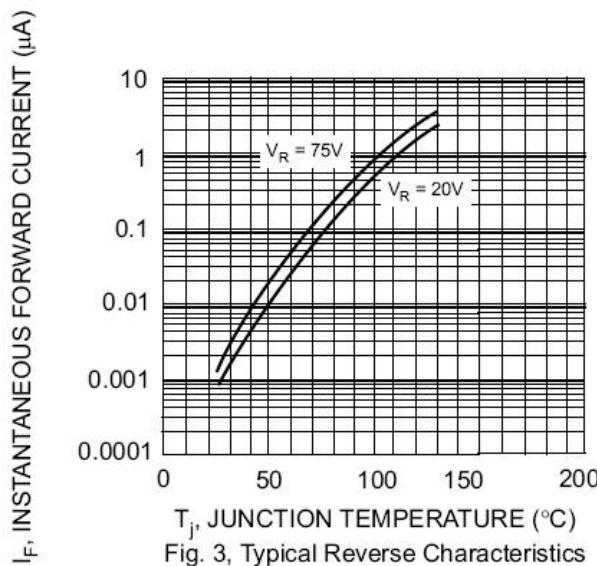


Fig. 3, Typical Reverse Characteristics

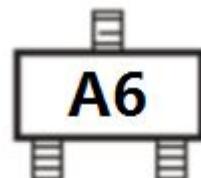
- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - [sales@smc-diodes.com](mailto:sales@smc-diodes.com) •

## Ordering Information

Device	Package	Shipping
BAS16	SOT-23 (Pb-Free)	3000pcs / reel

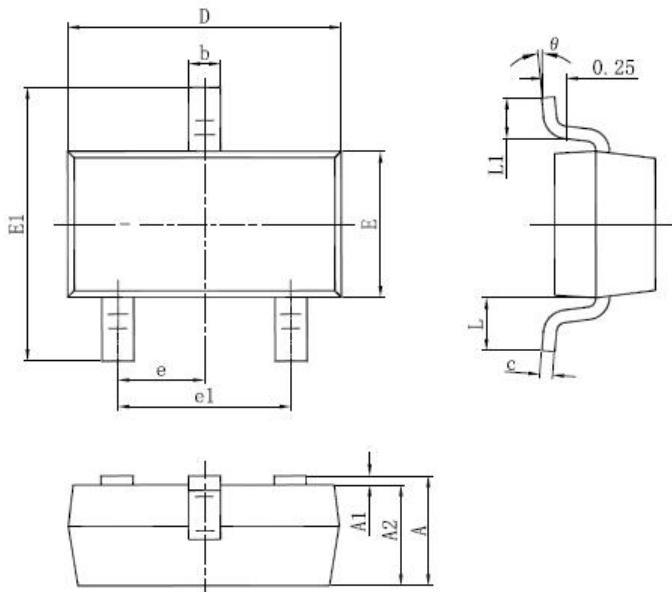
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

## Marking Diagram



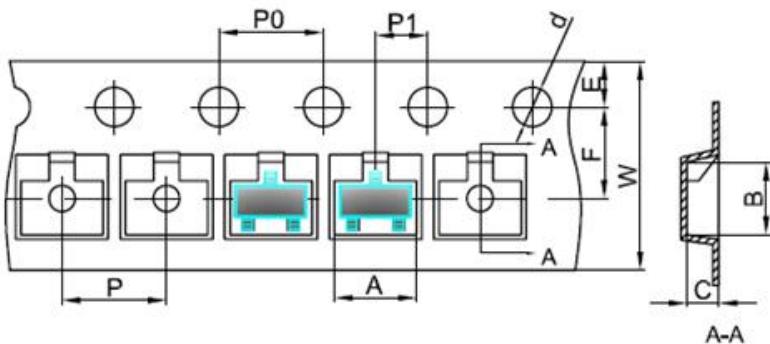
A6 = Marking Code

## 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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