SURFACE MOUNT SWITCHING DIODE

NEW PRODUCT

Features

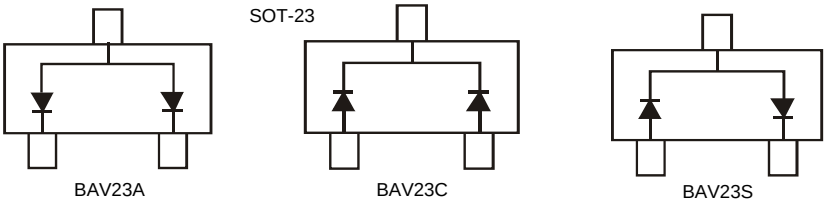
- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automated Insertion
- For General Purpose Switching Applications
- High Conductance
- **Lead, Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 3 and 4)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: See Diagrams Below
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.008 grams (approximate)

TOP VIEW

SOT-23



BAV23A BAV23C BAV23S

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic		Symbol	Value	Unit
Repetitive Peak Reverse Voltage		V_{RRM}	250	V
Working Peak Reverse Voltage DC Blocking Voltage		V_{RWM} V_R	200	V
RMS Reverse Voltage		$V_{R(RMS)}$	141	V
Forward Continuous Current (Note 2)		I_{FM}	400	mA
Non-Repetitive Peak Forward Surge Current	@ t = 1.0μs @ t = 100μs @ t = 10ms	I_{FSM}	9.0 3.0 1.7	A
Repetitive Peak Forward Surge Current (Note 2)		I_{FRM}	625	mA

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 2)	P_D	350	mW
Thermal Resistance Junction to Ambient Air (Note 2)	$R_{\theta JA}$	357	°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 1)	$V_{(BR)R}$	250	—	V	I_R = 100μA
Forward Voltage (Note 1)	V_F	—	1.0 1.25	V	I_F = 100mA I_F = 200mA
Reverse Current @ Rated DC Blocking Voltage (Note 1)	I_R	—	100	nA μA	T_J = 25°C T_J = 150°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

Notes:
1. Short duration pulse test used to minimize self-heating effect.
2. 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.
3. No purposefully added lead. Halogen and Antimony Free.
4. Product manufactured with Data Code V9 (week 33, 2008) and newer are built with Green Molding Compound. Product manufactured prior to Date Code V9 are built with Non-Green Molding Compound and may contain Halogens or Sb_2O_3 Fire Retardants.

NEW PRODUCT

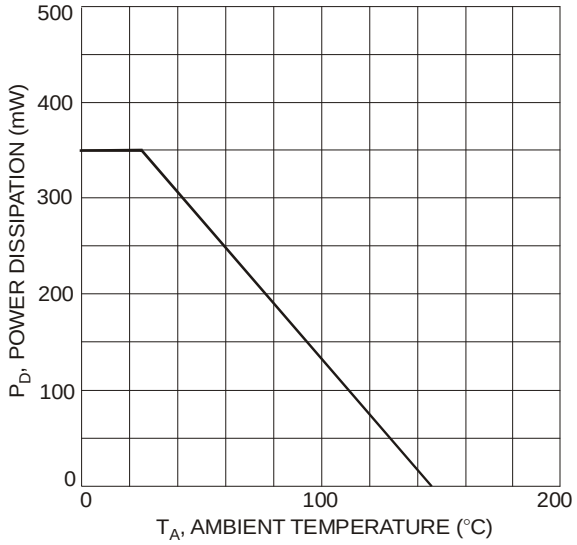


Fig. 1 Power Derating Curve, Total Package

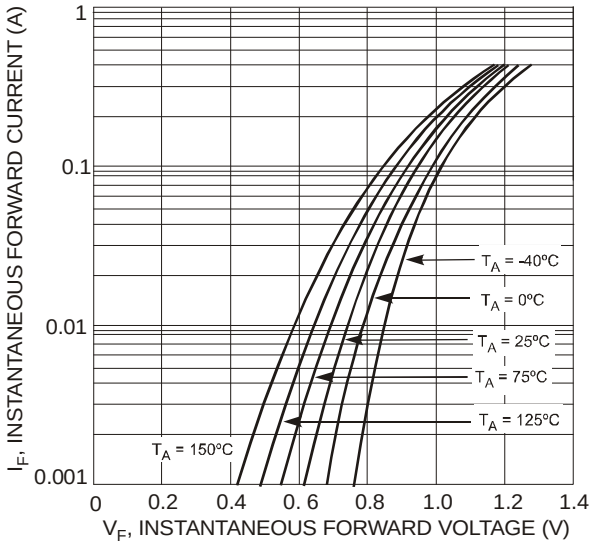


Fig. 2 Typical Forward Characteristics, Per Element

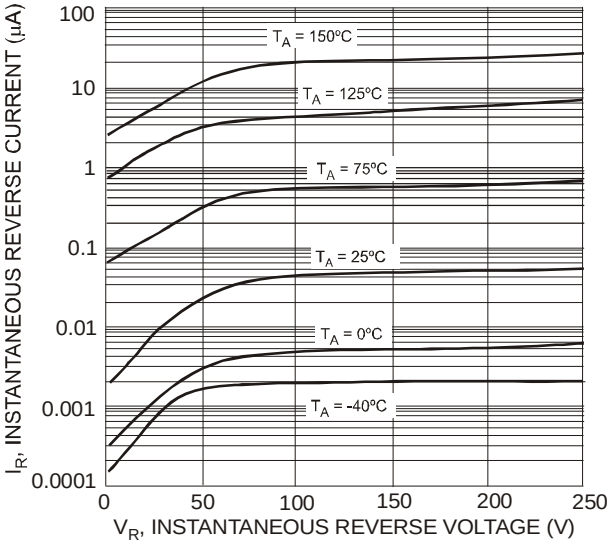


Fig. 3 Typical Reverse Characteristics, Per Element

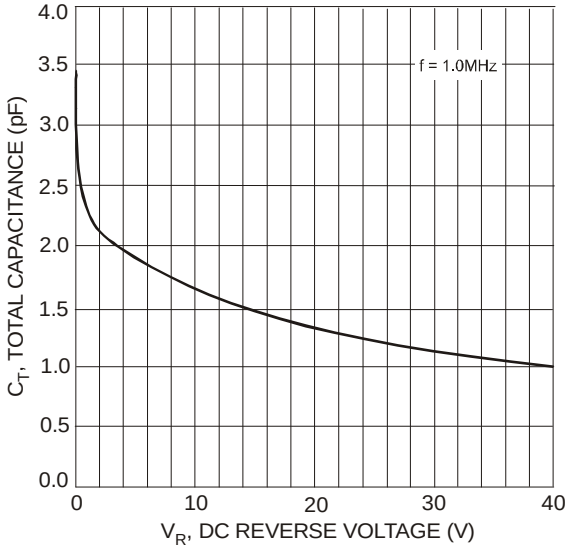


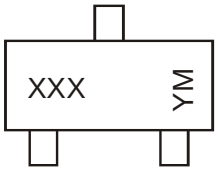
Fig. 4 Total Capacitance vs. Reverse Voltage, Per Element

Ordering Information (Note 5)

Part Number	Case	Packaging
BAV23A-7-F	SOT-23	3000/Tape & Reel
BAV23C-7-F	SOT-23	3000/Tape & Reel
BAV23S-7-F	SOT-23	3000/Tape & Reel

Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



XXX = Product Type Marking Code
ex. KT7 = BAV23A
KT6 = BAV23C
KL31 = BAV23S
YM = Date Code Marking
Y = Year ex: N = 2002
M = Month ex: 9 = September

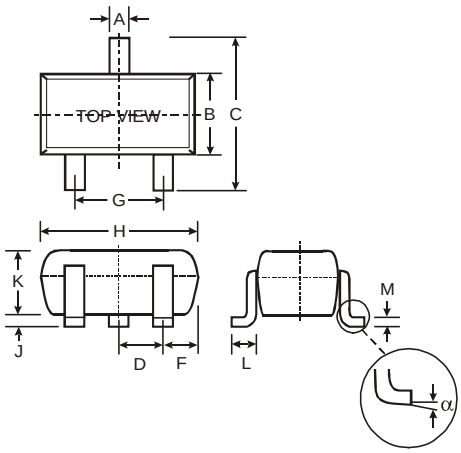
Date Code Key

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	M	N	P	R	S	T	U	V	W	X	Y	Z

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

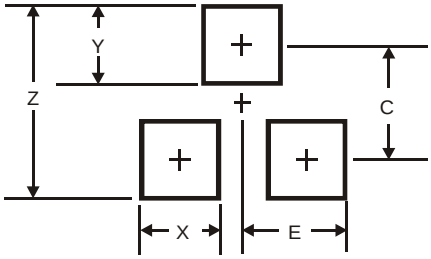
NEW PRODUCT

Package Outline Dimensions



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
F	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		

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.9
X	0.8
Y	0.9
C	2.0
E	1.35