BAV116W

SURFACE MOUNT LOW LEAKAGE DIODE

Please click here to visit our online spice models database.

Features

- Surface Mount Package Ideally Suited for Automated Insertion
- Very Low Leakage Current
- **Lead, Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 3 and 4)**

Mechanical Data

- Case: SOD-123
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe)
- Polarity: Cathode Band
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.01 grams (approximate)

SOD-123



TOP VIEW

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic		Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V_{RRM} V_{RWM} V_R	130	V
RMS Reverse Voltage		$V_{R(RMS)}$	90	V
Forward Continuous Current		I_{FM}	215	mA
Repetitive Peak Forward Current		I_{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current	@ t = 1.0μs @ t = 1.0ms @ t = 1.0s	I_{FSM}	4.0 1.0 0.5	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 2)	P_D	250	mW
Thermal Resistance Junction to Ambient Air (Note 2)	$R_{\theta JA}$	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	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	130 130	— —	— —	V	I_R = 100μA I_R = 100μA, T_J =125°C
Forward Voltage	V_F	—	—	0.90 1.0 1.1 1.25 1.0	V	I_F = 1.0mA, T_J = 25°C I_F = 10mA, T_J = 25°C I_F = 50mA, T_J = 25°C I_F = 150mA, T_J = 25°C I_F = 10mA, T_J = 125°C
Leakage Current (Note 1)	I_R	—	—	5.0 80	nA nA	V_R = 75V, T_J = 25°C V_R = 75V, T_J = 125°C
Total Capacitance	C_T	—	2.4	5	pF	V_R = 0, f = 1.0MHz
Reverse Recovery Time	t_{rr}	—	—	3.0	μs	I_F = I_R = 10mA, 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 page 3 or 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.

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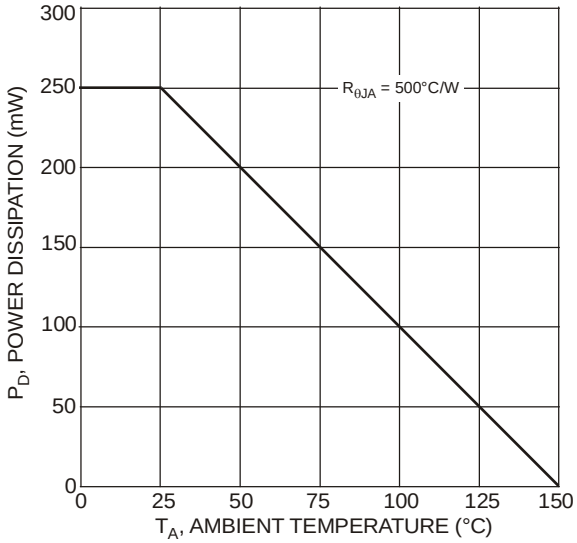


Fig. 1 Power Derating Curve

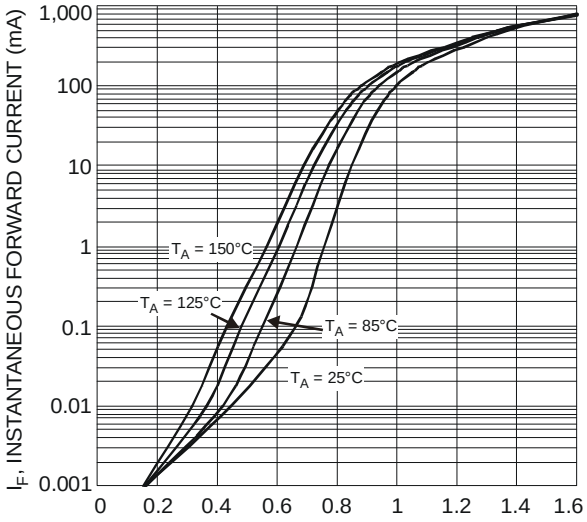


Fig. 2 Typical Forward Characteristics

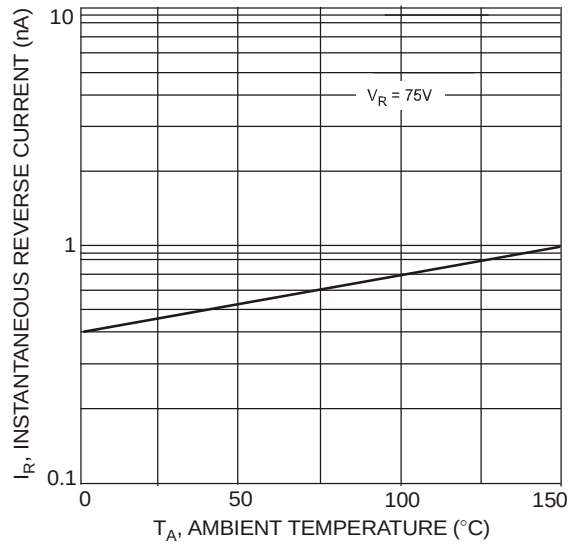


Fig. 3 Typical Reverse Characteristics

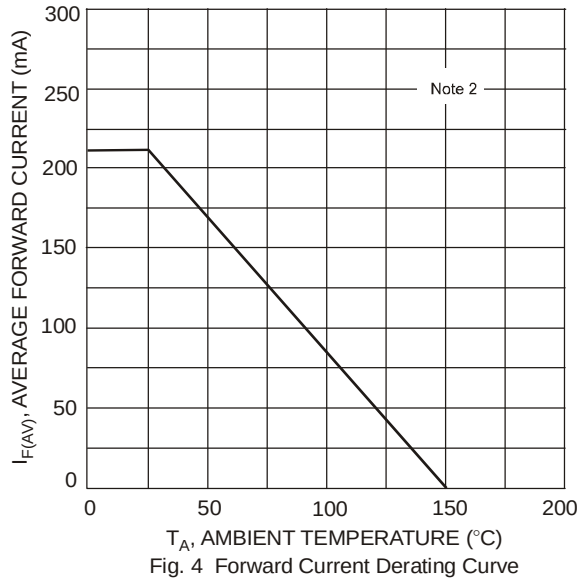


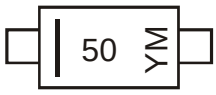
Fig. 4 Forward Current Derating Curve

Ordering Information (Note 5)

Part Number	Case	Packaging
BAV116W-7-F	SOD-123	3000/Tape & Reel

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

Marking Information



50 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: T = 2006)
M = Month (ex: 9 = September)

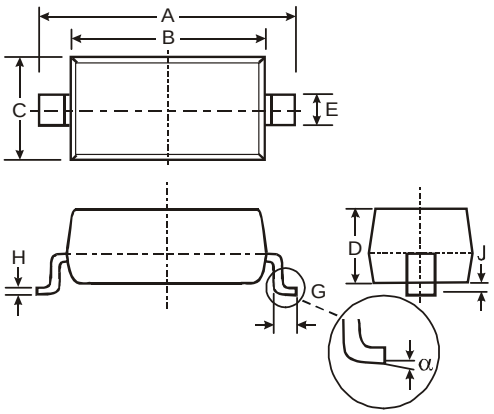
Date Code Key

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	L	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

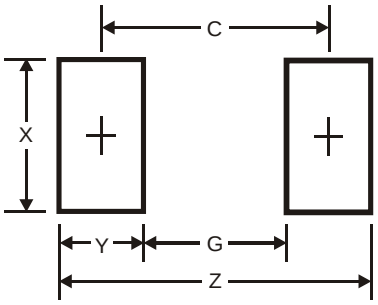
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Package Outline Dimensions



SOD-123			
Dim	**Min**	**Max**	**Typ**
A	3.55	3.85	3.65
B	2.55	2.85	2.65
C	1.40	1.70	1.55
D	1.00	1.35	1.05
E	—	—	0.55
G	0.25	0.40	0.30
H	0.10	0.15	0.11
J	—	0.10	0.05
α	0	8°	—
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	4.9
G	2.5
X	0.7
Y	1.2
C	3.7

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