Features

- Surface Mount Package Ideally Suited for Automated Insertion
- Very Low Leakage Current
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

Mechanical Data

- Case: SOD-123
- Case Material: Molded Plastic, "Green" Molding Compound; UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish Annealed over Alloy 42 Leadframe; (Lead-Free Plating).
  Solderable per MIL-STD-202, Method 208 e3
- Polarity: Cathode Band
- Weight: 0.01 grams (Approximate)

SOD-123

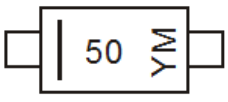
TOP VIEW

Ordering Information (Note 4)

Part Number	Case	Packaging
BAV116W-7-F	SOD-123	3,000/Tape & Reel
BAV116W-13-F	SOD-123	10,000/Tape & Reel

Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. For packaging details, go to our website at http://www.diodes.com/products/packages.html.

Marking Information



50 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: D = 2016)
M = Month (ex: 9 = September)

Date Code Key

Year	2000	2001	2002	2003	…	2015	2016	2017	2018	2019	2020	2021	2022
Code	L	M	N	P	…	C	D	E	F	G	H	I	J

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

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 5)	P_D	250	mW
Thermal Resistance Junction to Ambient Air (Note 5)	$R_{\theta JA}$	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 6)	$V_{(BR)R}$	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 6)	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: 5. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com.
6. Short duration pulse test used to minimize self-heating effect .

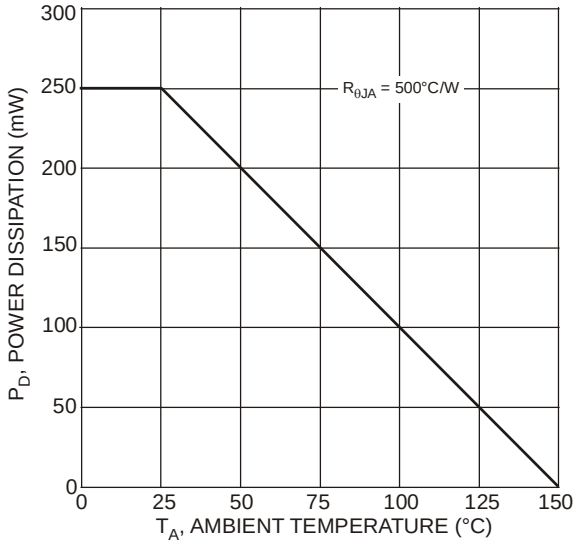


Fig. 1 Power Derating Curve

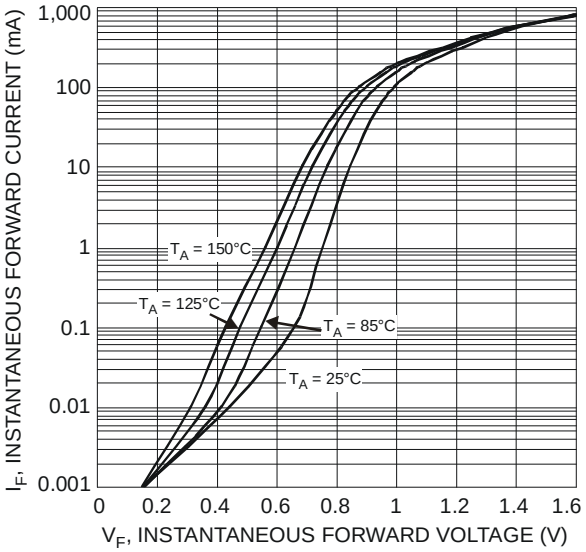


Fig. 2 Typical Forward Characteristics

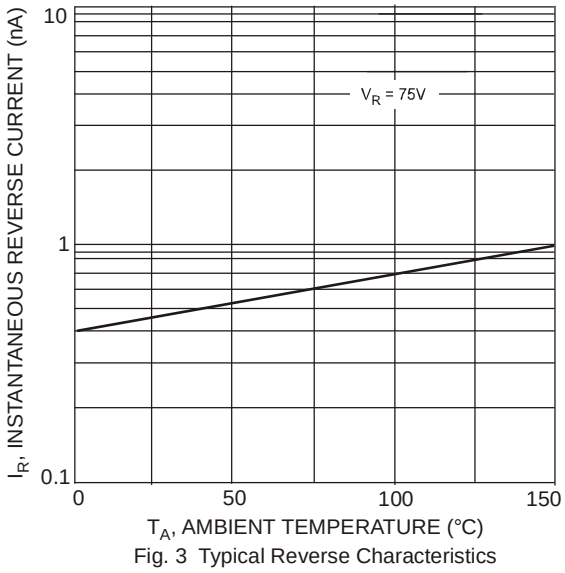


Fig. 3 Typical Reverse Characteristics

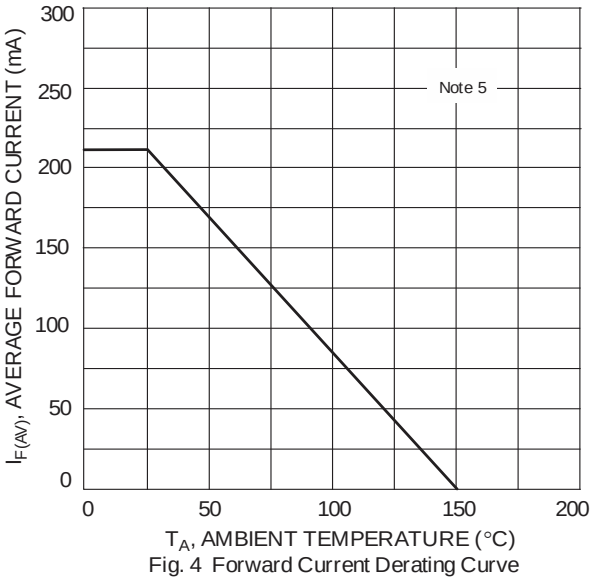
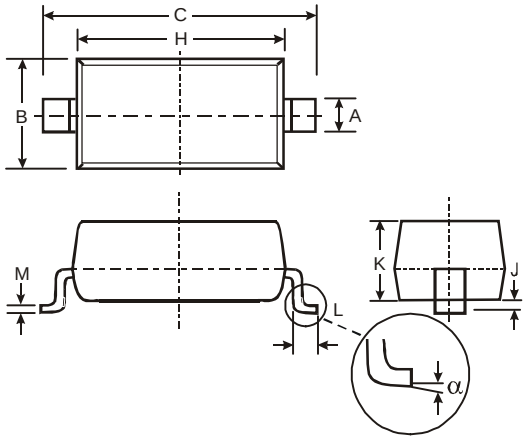


Fig. 4 Forward Current Derating Curve

Package Outline Dimensions

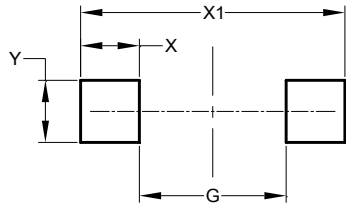
Please see http://www.diodes.com/package-outlines.html for the latest version.



SOD123		
Dim	**Min**	**Max**
A	0.55 Typ	
B	1.40	1.70
C	3.55	3.85
H	2.55	2.85
J	0.00	0.10
K	1.00	1.35
L	0.25	0.40
M	0.10	0.15
α	0	8°
All Dimensions in mm		

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.



Dimensions	Value(in mm)
G	2.250
X	0.900
X1	4.050
Y	0.950

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