



SURFACE MOUNT LOW LEAKAGE DIODE

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



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)	$R_{ heta JA}$	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

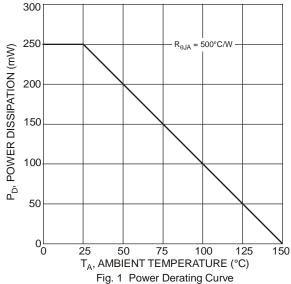
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	V _{(BR)R}	130 130			V	$I_R = 100 \mu A$ $I_R = 100 \mu A, T_J = 125 ^{\circ} C$
Forward Voltage	V _F	_	_	0.90 1.0 1.1 1.25 1.0	V	I _F = 1.0mA, T _J = 25°C I _F = 10mA, T _J = 25°C I _F = 50mA, T _J = 25°C I _F = 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	$I_F = I_R = 10 \text{mA},$ $I_{rr} = 0.1 \text{ x } I_R, R_L = 100 \Omega$

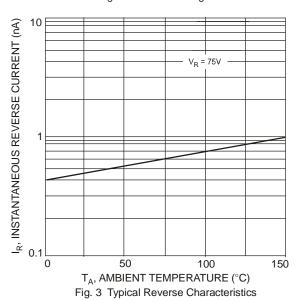
Notes:

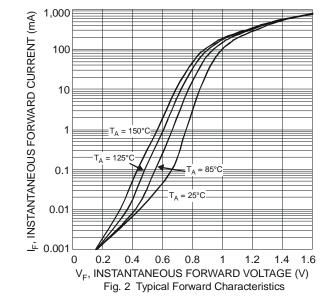
- 1. Short duration pulse test used to minimize self-heating effect.
- 2. Part mounted on FR-4 board with recommended pad layout, which can be found on page 3 or our website at http://www.diodes.com/datasheets/ap02001.pdf
- 3. No purposefully added lead. Halogen and Antimony Free.
- Product manufactured 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 Sb₂O₃ Fire Retardants.

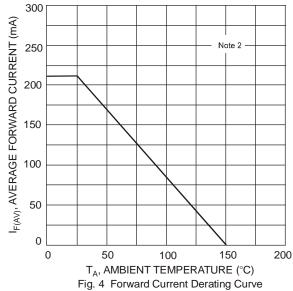
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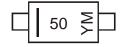


Ordering Information (Note 5)

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)

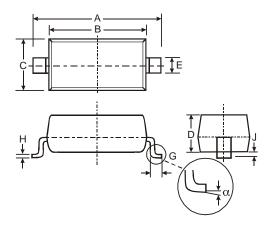
Date Code Key

Year	2000	2001	2002	2003	2004	2005	2006	200	07 200	8 2009	2010	2011	2012
Code	L	М	N	Р	R	S	Т	U	V	W	Х	Y	Z
Month	Jan	Feb	Mar	Apr	· Ma	y J	un	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5		ŝ	7	8	9	0	N	D

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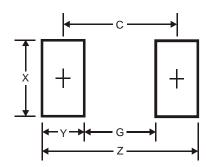


Package Outline Dimensions



	SOD-123					
Dim	Min	Max	Тур			
Α	3.55	3.85	3.65			
В	2.55	2.85	2.65			
С	1.40	1.70	1.55			
D	1.00	1.35	1.05			
Е	-		0.55			
G	0.25	0.40	0.30			
Н	0.10	0.15	0.11			
J	_	0.10	0.05			
α	0	8°				
All [All Dimensions in mm					

Suggested Pad Layout



Dimensions	Value (in mm)
Z	4.9
G	2.5
Х	0.7
Y	1.2
С	3.7

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