





1.0A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Features

- Guard Ring Die Construction for Transient Protection
- Very Low Forward Voltage Drop
- 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
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe) Solderable per MIL-STD-202, Method 208
- · Polarity: Cathode Band
- Marking Information: See Page 3Ordering Information: See Page 3
- Weight: 0.01 grams (approximate)



Top View

Maximum Ratings @T_A = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitance load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	30	V
RMS Reverse Voltage	V _{R(RMS)}	21	V
Average Forward Current (See Figure 6)	I _{F(AV)}	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	12	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 2)	P _D	450	mW
Typical Thermal Resistance Junction to Ambient (Note 2)	$R_{ heta JA}$	222	°C/W
Operating Temperature Range (See Figure 7)	TJ	-55 to +125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

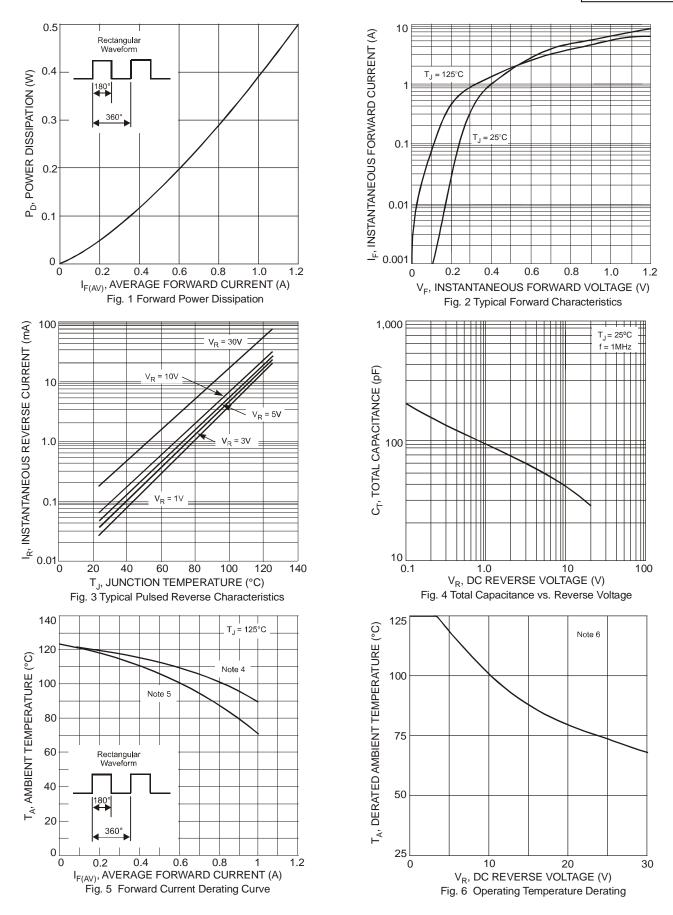
Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	V _{(BR)R}	30	_		V	I _R = 1.5mA
Forward Voltage	V _F		0.25 0.35 0.38	0.37 0.42	V	I _F = 0.1A I _F = 0.7A I _F = 1.0A
Leakage Current (Note 1)	I _R	_	0.15	1.0	mA	V _R = 30V, T _A = 25°C
Total Capacitance	Ст	_	40	_	pF	V _R = 10V, f = 1.0MHz

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 Sb₂O₃ Fire Retardants.







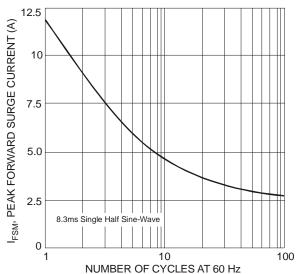


Fig. 7 Maximum Non-Repetitive Peak Forward Surge Current

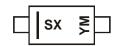
- Notes: 5. Device mounted on GETEK substrate, 2"x2", 2 oz. copper, double-sided, cathode pad dimensions 0.75" x 1.0", anode pad dimensions 0.25" x 1.0".
 6. Device mounted on FR-4 substrate, 2"x2", 2 oz. copper, single-sided, pad layout as per Diodes Inc. suggested pad layout document AP02001 which
 - Device mounted on FR-4 substrate, 2"x2", 2 oz. copper, single-sided, pad layout as per Diodes Inc. suggested pad layout document AP02001 which
 can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
 - 7. $R_{\theta JA}$ estimated to be approximately 220 °C/W.

Ordering Information (Note 8)

Part Number	Case	Packaging
B130LAW-7-F	SOD-123	3000/Tape & Reel

Notes: 8. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



SX = Product Type Marking Code YM = Date Code Marking

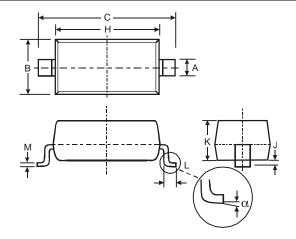
Y = Year ex: T = 2006

M = Month (ex: 9 = September)

Date Code Key

Year	200	6	2007		2008	20	009	2010		2011	2	2012
Code	Т		U		V	,	W	Χ		Υ		Z
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D

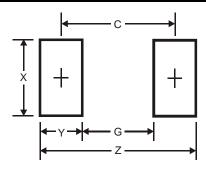
Package Outline Dimensions



SOD-123						
Dim	Min Max					
Α	0.55	Тур				
В	1.40	1.70				
C	3.55	3.85				
Η	2.55	2.85				
7	0.00	0.10				
K	1.00 1.35					
┙	0.25	0.40				
М	0.10	0.15				
α	0	8°				
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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