



BAT46W

SURFACE MOUNT SCHOTTKY BARRIER DIODE

Features

- High Breakdown Voltage
- Low Turn-on Voltage
- Guard Ring Construction for Transient Protection
- Lead, Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 4 and 5)

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 3
- Ordering Information: See Page 3
- Weight: 0.01 grams (approximate)



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	100	V
Forward Continuous Current (See figure 4)	l _F	150	mA
Repetitive Peak Forward Current (Note 1) @ t _p < 1.0s, Duty Cycle < 50%	I _{FRM}	350	mA
Forward Surge Forward Current (Note 1) @ t _p = 10ms	I _{FSM}	750	mA

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation	P_{D}	200	mW
Thermal Resistance, Junction to Ambient Air (Note 1) Thermal Resistance, Junction to Ambient Air (Note 2)	$R_{ hetaJA}$	420 370	°C/W
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

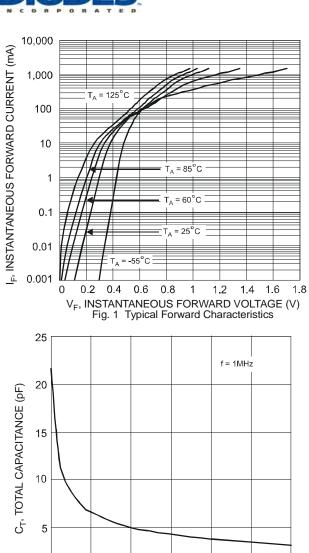
Electrical Characteristics @T_A = 25°C unless otherwise specified

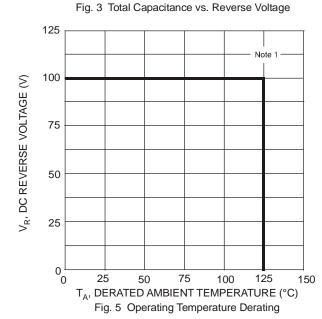
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 3)	V _{(BR)R}	100	_	_	V	$I_R = 100 \mu A$
Forward Voltage	V _F	_		0.25 0.45 1.00	٧	$\begin{split} I_F &= 0.1 \text{mA} \\ I_F &= 10 \text{mA} \\ I_F &= 250 \text{mA} \end{split}$
Peak Reverse Current (Note 3)	I _R	_	_	0.3 5.0 0.5 7.5 1.0 15 2.0 20	μΑ	$\begin{split} &V_R = 1.5V \\ &V_R = 1.5V, \ T_J = 60^{\circ}C \\ &V_R = 10V \\ &V_R = 10V, \ T_J = 60^{\circ}C \\ &V_R = 50V \\ &V_R = 50V, \ T_j = 60^{\circ}C \\ &V_R = 75V \\ &V_R = 75V, \ T_J = 60^{\circ}C \\ \end{split}$
Total Capacitance	C _T	_	20 12	_	n-	$V_R = 0V, f = 1.0MHz$ $V_R = 1.0V, f = 1.0MHz$

Notes:

- 1. 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.
- 2. Part mounted on Polymide board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
- Short duration pulse test used to minimize self-heating effect.
- 4. 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.







10

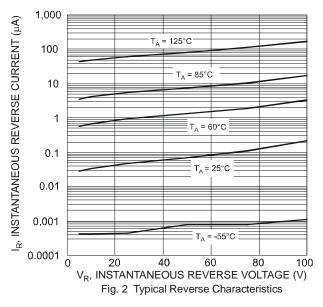
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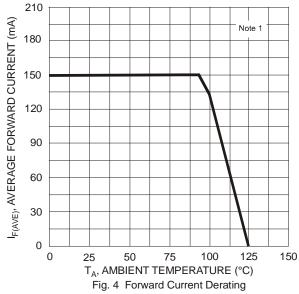
 V_R , DC REVERSE VOLTAGE (V)

20

25

30





0

0

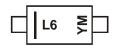


Ordering Information (Note 6)

Part Number	Case	Packaging
BAT46W-7-F	SOD-123	3000/Tape & Reel

Notes: 6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information

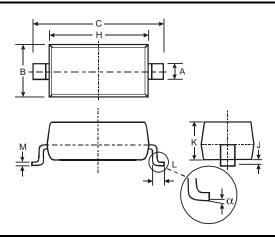


L6 = Product Type Marking Code YM = Date Code Marking Y = Year (ex: S = 2005) M = Month (ex: 9 = September)

Date Code Key

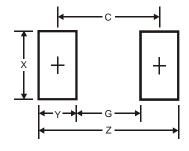
Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	R	S	Т	U	V	W	Х	Υ	Z	Α	В	С
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Package Outline Dimensions



SOD-123					
Dim	Min	Max			
Α	0.55 Typ				
В	1.40	1.70			
С	3.55	3.85			
H	2.55	2.85			
J	0.00	0.10			
K	1.00	1.35			
Г	0.25	0.40			
M	0.10	0.15			
α	0	8°			
All Dir	nensions	s 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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