



SURFACE MOUNT HIGH VOLTAGE DIODE

Product Summary (@TA = +25°C)

V _R	I _R	t _{rr}
250V	100nA	50ns

Description

The BAV21HWF is a 250V, 100nA and 50ns switching diode that is optimized for high reverse breakdown voltage.

Applications

It is ideally suited for use in applications such as the following:

- Mobile
- Portable Electronics
- Consumer Electronics
- Automotive

Features

- High Reverse Breakdown Voltage
- Flat Leadframe Design for Improved Thermal Transfer
- High Conductance
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability

Mechanical Data

- Case: SOD123F
- Case Material: Molded Plastic, "Green" Molding Compound.
 UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Bar
- Terminals: Matte Tin Finish Annealed over Copper Alloy Leadframe. Solderable per MIL-STD-202, Method 208 (3)
- Weight: 0.018 grams (Approximate)

SOD123F







Bottom View

1 O O 2 CATHODE ANODE

Ordering Information (Note 4)

Product	Compliance	Case	Packaging
BAV21HWF-7	AEC-Q101	SOD123F	3,000/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

SOD123F



T3 = Product Type Marking Code YM = Date Code Marking Y = Year (ex.: C = 2015) M = Month (ex: O = October) Bar Denotes Cathode Side

Date Code Key

Year	201	5	2016		2017	20	18	2019		2020	2	2021
Code	С		D		Е	ı	F	G		Н		I
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



Maximum Ratings (@ $T_A = +25^{\circ}C$, unless otherwise specified.)

Characteristic		Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V _{RRM} V _R WM V _R	250	V
RMS Reverse Voltage		V _{R(RMS)}	177	V
Forward Continuous Current		I _{FM}	400	mA
Average Rectified Output Current		Io	200	mA
Repetitive Peak Forward Current		I _{FRM}	625	mA
Non-Repetitive Peak Forward Surge Current	@ t = 1.0μs @ t = 100μs @ t = 10ms	I _{FSM}	9.0 3.0 1.7	А

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P _D	375	mW
Thermal Resistance Junction to Ambient Air (Note 5)	R _{0JA}	330	°C/W
Thermal Resistance Junction to Solder Point	$R_{\theta JSP}$	70	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

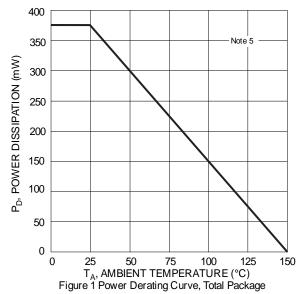
Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	250	_	V	$I_R = 100\mu A$
Forward Voltage	V _F	_	1.0 1.25	٧	$I_F = 100 \text{mA}$ $I_F = 200 \text{mA}$
Reverse Current (Note 6)	I _R	_	100 100		V _R = 200 V, T _J = +25°C V _R = 200 V, T _J = +150°C
Total Capacitance	Ст	_	5.0	pF	$V_R = 0, f = 1.0MHz$
Reverse Recovery Time	t _{rr}	_	50	ns	$I_F = I_R = 30 \text{mA},$ $I_{rr} = 0.1 \text{ x } I_R, R_L = 100 \text{W}$

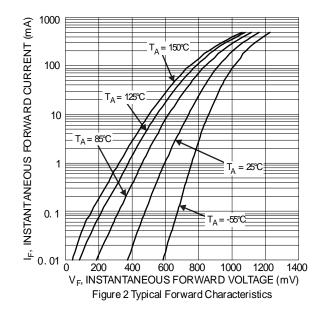
Notes:

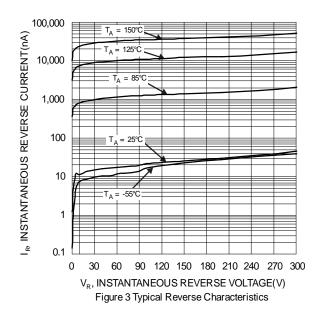
^{5.} Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com.

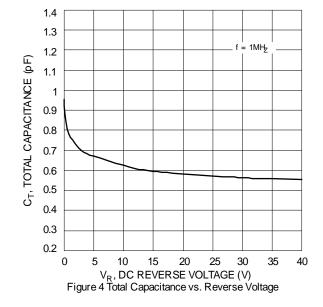
^{6.} Short duration pulse test used to minimize self-heating effect.









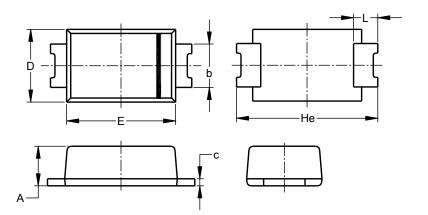




Package Outline Dimensions

Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.

SOD123F (Type B)

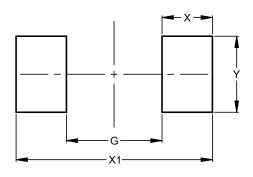


SOD123F (Type B)					
Dim	Min	Max	Тур		
Α	0.81	1.15	_		
b	0.80	1.35	_		
С	0.05	0.30	_		
D	1.70	1.90	1.80		
E	2.60	2.80	2.70		
He	3.30	3.70	3.50		
L	0.35	0.85	_		
All Dimensions in mm					

Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.

SOD123F (Type B)



Dimensions	Value (in mm)
G	1.90
Х	1.00
X1	3.90
Υ	1.50



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