



SURFACE MOUNT FAST SWITCHING DIODE

Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automated Insertion
- For General Purpose Switching Applications
- **High Conductance**
- Lead Free/RoHS Compliant (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability

Mechanical Data

- Case: SOD-323
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Band, See Page 2
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.004 grams (approximate)

SOD-323



Top View

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic		Symbol	BAV19WS	BAV20WS	BAV21WS	Unit
Repetitive Peak Reverse Voltage		V_{RRM}	120	200	250	V
Working Peak Reverse Voltage DC Blocking Voltage		$V_{RWM} \ V_{R}$	100	150	200	٧
RMS Reverse Voltage		V _{R(RMS)}	71	106	141	V
Forward Continuous Current (Note 1)		I _{FM}		250		mA
Average Rectified Output Current (Note 1)		Ιο		200		mA
Non-Repetitive Peak Forward Surge Current	@ t = 1.0μs @ t = 1.0s	I _{FSM}	2.5 0.5			А
Repetitive Peak Forward Surge Current		I _{FRM}		625		mA

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation	P_{D}	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{ hetaJA}$	625	°C/W
Operating and Storage Temperature Range	T_J,T_STG	-65 to +150	°C

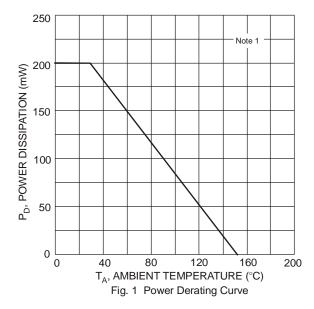
Electrical Characteristics @TA = 25°C unless otherwise specified

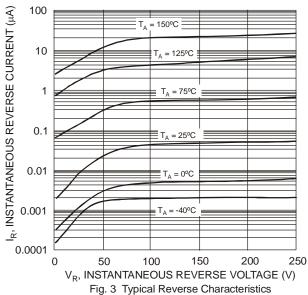
Characteristic		Symbol	Min	Max	Unit	Test Condition
BA	AV19WS AV20WS AV21WS	$V_{(BR)R}$	120 200 250		V	I _R = 100μA
Forward Voltage		V_{F}		1.0 1.25	V	$I_F = 100 \text{mA}$ $I_F = 200 \text{mA}$
Peak Reverse Current @ Rated DC Blocking Voltage (Note 2)		I _R		100 15	nA μA	$T_J = 25$ °C $T_J = 100$ °C
Total Capacitance		Ст		5.0	pF	$V_R = 0, f = 1.0MHz$
Reverse Recovery Time		t _{rr}	_	50	ns	$I_F = I_R = 30 \text{mA},$ $I_{rr} = 0.1 \times I_R, R_L = 100 \Omega$

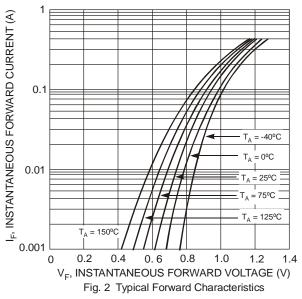
Notes:

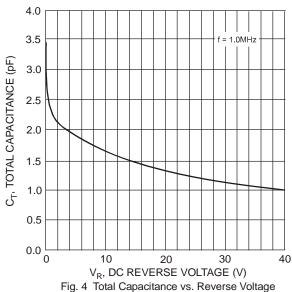
- 1. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
- Short duration pulse test used to minimize self-heating effect.
- No purposefully added lead. Halogen and Antimony Free.
- Product manufactured with Data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









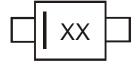


Ordering Information (Note 5)

Part Number	Case	Packaging
BAV19WS-7-F	SOD-323	3000/Tape & Reel
BAV20WS-7-F	SOD-323	3000/Tape & Reel
BAV21WS-7-F	SOD-323	3000/Tape & Reel

Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information

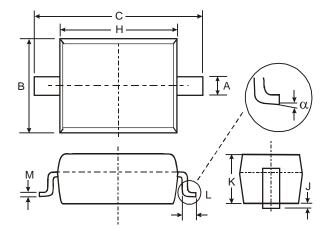


XX = Product Type Marking Code, See Page 1

BAV19WS Marking: T2 or T3 BAV20WS Marking: T2 or T3 BAV21WS Marking: T3

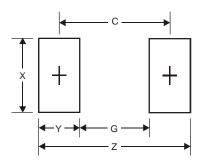


Package Outline Dimensions



SOD-323				
Dim	Min	Max		
Α	0.25	0.35		
В	1.20	1.40		
С	2.30	2.70		
Н	1.60	1.80		
J	0.00	0.10		
K	1.0	1.1		
L	0.20	0.40		
М	0.10	0.15		
α	0°	8°		
All Dimensions in mm				

Suggested Pad Layout



Dimensions	Value (in mm)
Z	3.75
G	1.05
Х	0.65
Υ	1.35
С	2.40



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