

BAV21WS(LS)

**SURFACE MOUNT
FAST SWITCHING DIODE**

**REVERSE VOLTAGE – 250 Volts
FORWARD CURRENT – 0.2 Amperes**

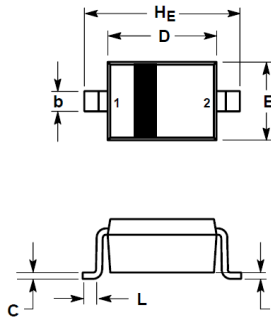
FEATURES

- Fast switching speed
- Ideally suited for automatic insertion
- For general purpose switching applications
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

MECHANICAL DATA

- Package: SOD-323 plastic
- Package Material: "Green" molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Moisture Sensitivity: Level 1 per J-STD-020

SOD-323



SOD-323		
DIM	MIN	MAX
A	0.80	1.00
A1	--	0.10
A3	0.15 REF.	
b	0.25	0.40
c	0.089	0.177
D	1.60	1.80
E	1.15	1.35
L	0.08	--
HE	2.30	2.70
All dimension in millimeter		

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at +25°C ambient temperature unless otherwise specified.

ABSOLUTE RATINGS & THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	VALUE	UNIT
Continuous reverse voltage	V_R	250	V
Total device dissipation (Note 4) @ $T_A = +25^\circ\text{C}$	P_D	200	mW
Peak forward current	I_F	200	mA
Peak forward surge current	I_{FM}	625	mA
Non-repetitive peak forward current	I_{FSM}	9	A
t = 1µs		3	
t = 100µs		1.7	
Thermal resistance junction to ambient (Note 4)	R_{thJA}	635	°C/W
Junction and storage temperature range	T_J, T_{STG}	-55 to +150	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Maximum forward voltage	$I_F = 100\text{mA}$	V_F	1000	mV
	$I_F = 200\text{mA}$		1250	
Reverse breakdown voltage	$I_{BR} = 100\mu\text{A}$	V_{BR}	250	V
Maximum DC reverse current at rated DC blocking voltage	$V_R = 200\text{V}$	I_R	0.1	µA
	$V_R = 200\text{V}, @ T_J = +150^\circ\text{C}$		100	

DYNAMIC ELECTRICAL CHARACTERISTICS

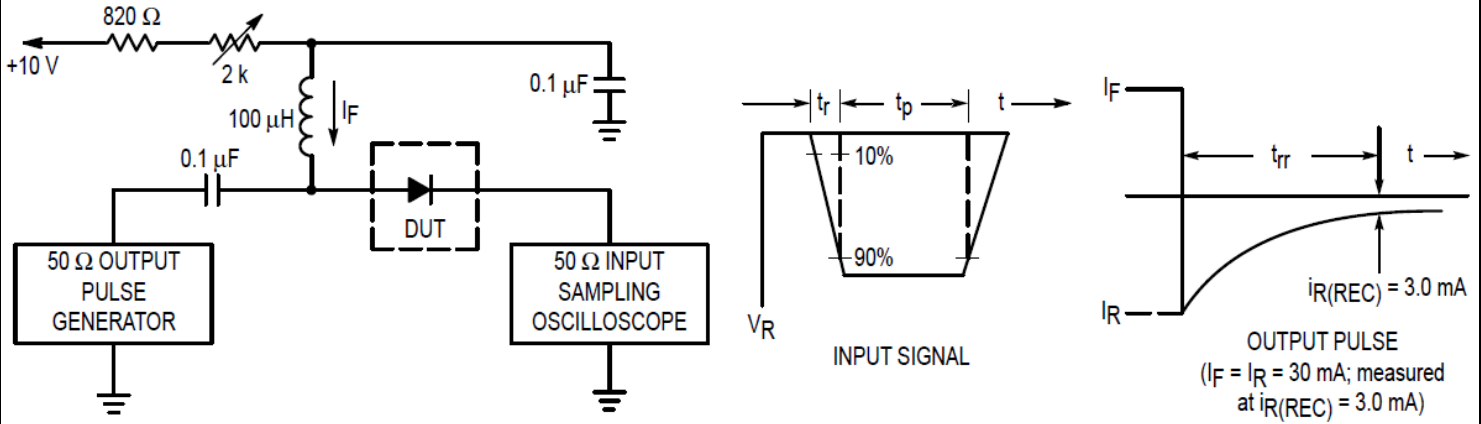
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Maximum total capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	C_T	5	pF
Maximum reverse recovery time	$I_F = I_R = 30\text{mA}, R_L = 100\Omega$	t_{rr}	50	ns

Notes:

- EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
- See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
- Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- Device mounted on FR-5 board, minimum pad.

ELECTRICAL CHARACTERISTIC CURVES
BAV21WS

FIG.1 - Recovery Time Equivalent Test Circuit



- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 30 mA.
 2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 30 mA.
 3. $t_p \gg t_{rr}$

FIG.2 - Typical Forward Characteristics

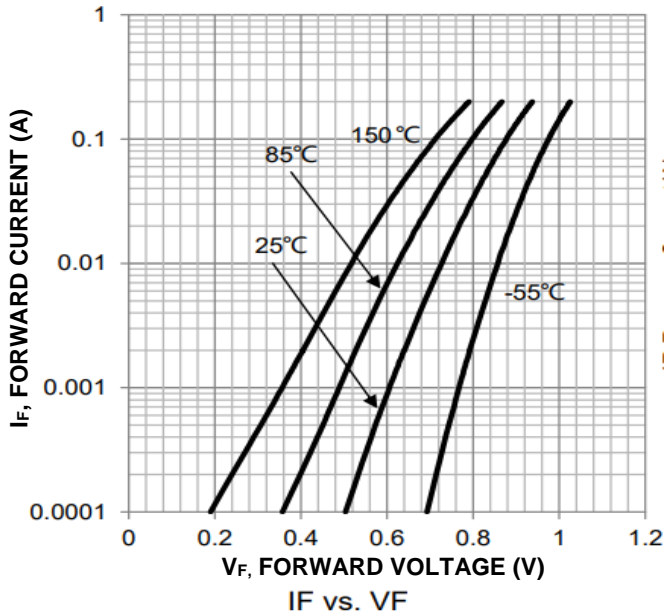
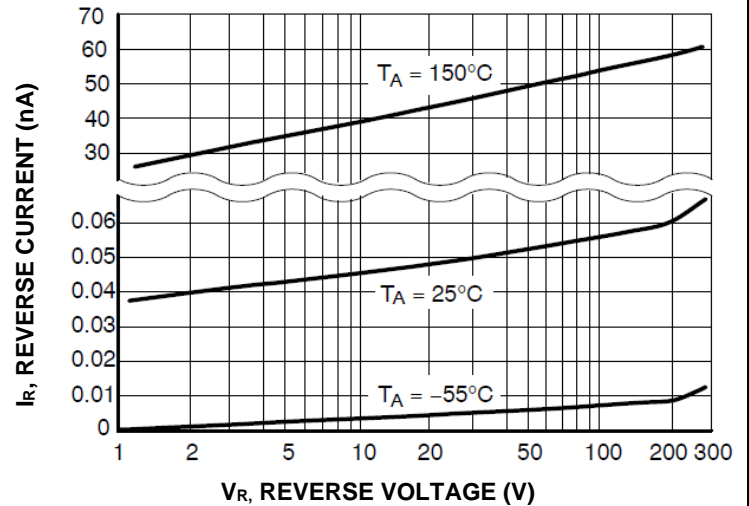


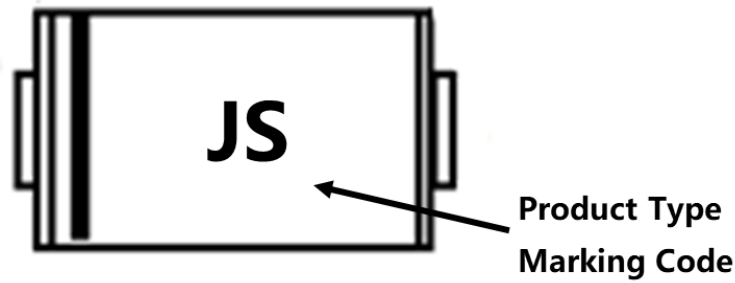
FIG.3 - Typical Reverse Characteristics



Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
BAV21WS	SOD-323	3000pcs	Tape & Reel

Marking Information:



Device	Marking Code	Equivalent Circuit Diagram
BAV21WS	JS	1 ○ — ←— ○ 2

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