

**SURFACE MOUNT
FAST SWITCHING DIODE**

**REVERSE VOLTAGE – 75 Volts
FORWARD CURRENT – 0.15 Ampere**

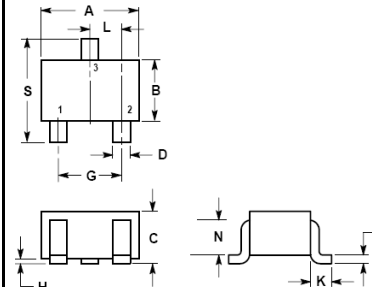
FEATURES

- 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: SOT-323 Plastic
- Package material: “Green” molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Moisture sensitivity: Level 1 per J-STD-020

SOT-323



SOT-323		
Dim.	Min.	Max.
A	1.80	2.20
B	1.15	1.35
C	0.80	1.00
D	0.30	0.40
G	1.20	1.40
H	0.00	0.10
J	0.10	0.25
K	0.425 Ref.	
L	0.650 Bsc	
N	0.700 Ref.	
S	2.00	2.40
Dimensions in millimeter		

Maximum Ratings & Thermal Characteristics @ T_A = +25°C, unless otherwise specified

Characteristic	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V _{RM}	100	V
Repetitive Peak Reverse Voltage	V _{RRM}	75	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _R		
RMS Reverse Voltage	V _{R(RMS)}	53	V
Forward Continuous Current	I _{FM}	300	mA
Average Rectified Output Current	I _o	150	mA
Non-Repetitive Peak Forward Surge Current @ t = 1μs	I _{FSM}	2	A
@ t = 1s		1	
Power Dissipation	P _D	200	mW
Thermal Resistance Junction to Ambient	R _{thJA}	625	°C/W
Maximum Operating Temperature	T _J	+150	°C
Storage Temperature Range	T _{STG}	-65 to +150	°C

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

Characteristic	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	I _R = 100μA	V _{BR}	75	--	--	V
Maximum Forward Voltage	I _F = 1mA	V _F	--	--	715	mV
	I _F = 10mA		--	--	855	
	I _F = 50mA		--	--	1000	
	I _F = 150mA		--	--	1250	
Maximum DC Reverse Current at Rated DC Blocking Voltage	V _R = 75V	I _R	--	--	2.5	μA
	V _R = 20V		--	--	0.025	
Maximum Total Capacitance	V _R = 0V, f = 1MHz	C _T	--	--	2	pF
Maximum Reverse Recovery Time	I _{rr} = 1mA I _R = I _F = 10mA R _L = 100Ω	t _{rr}	--	--	4	ns

Notes:

1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. 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.
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.

RATING AND CHARACTERISTIC CURVES
BAV99W

Fig.1 Typical Forward Characteristics

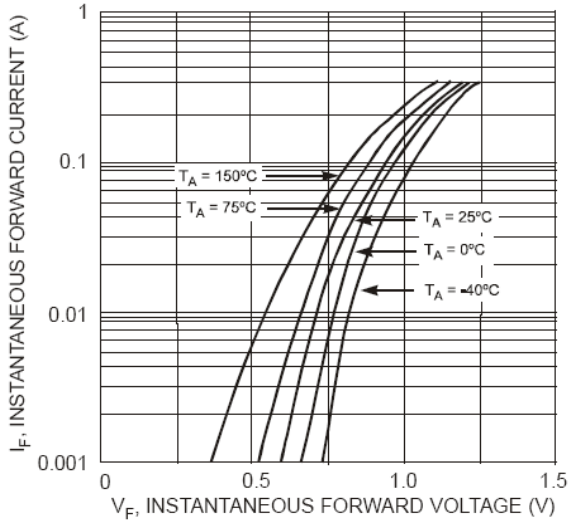


Fig.2 Typical Reverse Characteristics

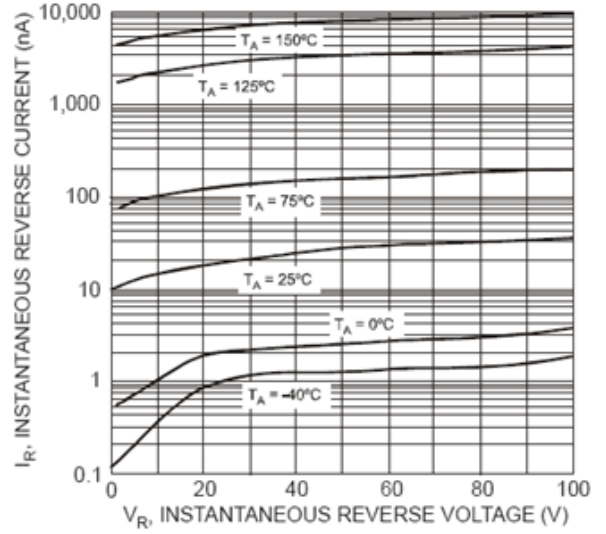


Fig.3 Total Capacitance vs. Reverse Voltage

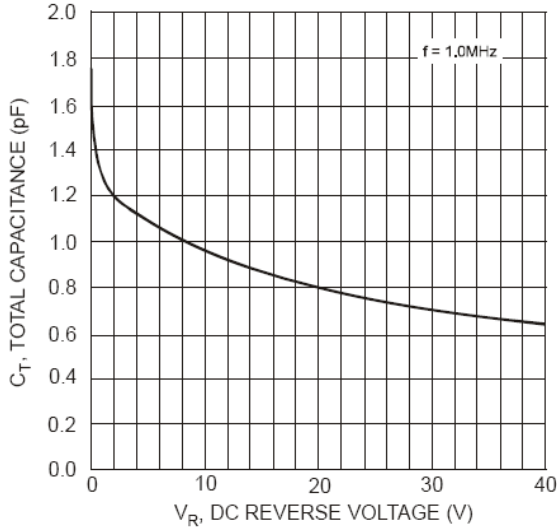


Fig.4 Reverse Recovery Time vs. Forward Current

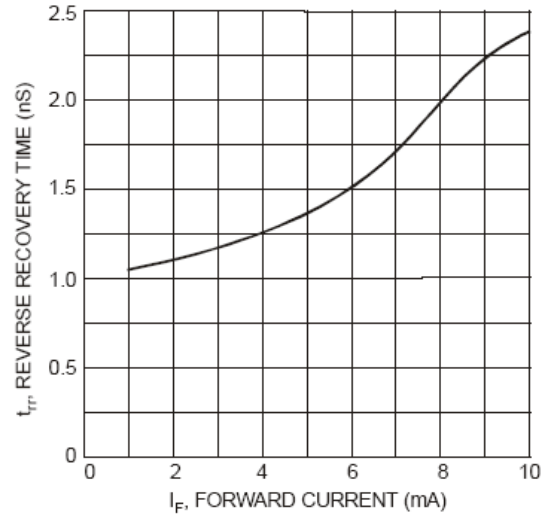
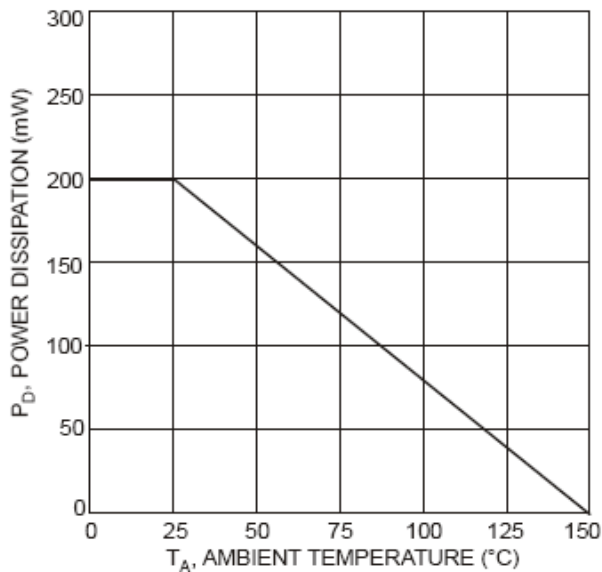


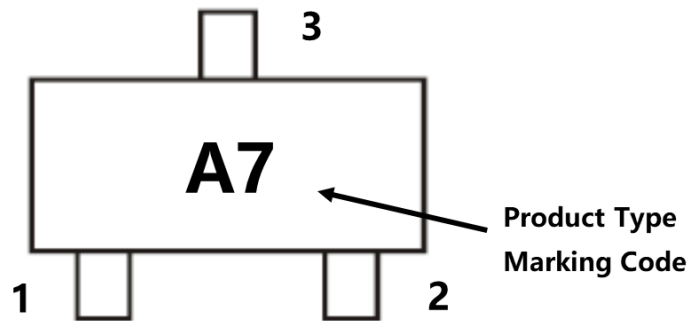
Fig.5 Power Derating Curve



Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
BAV99W	SOT-323	3000pcs	Tape & Reel

Marking Information:



Device P/N	Marking Code	Equivalent Circuit Diagram
BAV99W	A7	<p>The equivalent circuit diagram shows a diode symbol with three terminals. Terminal 3 is on the left, terminal 1 is on the top right, and terminal 2 is on the bottom right. The diode symbol is oriented with its cathode towards terminal 3 and its anode towards terminal 1.</p>

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