



# THE DATASHEET OF BAV20W



## BAV19W-BAV21W SURFACE MOUNT FAST SWITCHING DIODE



### Features

- High Conductance
- Fast Switching
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Schematic & Pin Configuration



### Mechanical Characteristics

- Case: SOD-123, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.01 grams(approx)

### Maximum Ratings@T<sub>A</sub>=25°C unless otherwise specified

Characteristic	Symbol	BAV19W	BAV20W	BAV21W	Units
Non-Repetitive Peak Reverse Voltage	V <sub>RM</sub>	120	200	250	V
Peak Repetitive Peak Reverse Voltage	V <sub>RPM</sub>	100	150	200	V
Working Peak Reverse Voltage	V <sub>RWM</sub>				
DC Blocking Voltage	V <sub>R</sub>				
RMS Reverse Voltage	V <sub>R(RMS)</sub>	71	106	141	
Average Rectified Output Current	I <sub>O</sub>	200			mA
Forward continuous current	I <sub>FM</sub>	400			mA
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) @t=1.0ms @ t=1.0s	I <sub>FSM</sub>	2.5 0.5			A
Power Dissipation	P <sub>d</sub>	410			mW
Typical Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	500			°C/W
Junction Temperature Range	T <sub>J</sub>	150			°C
Storage Temperature Range	T <sub>STG</sub>	-65 to +150			°C

**Electrical Characteristics@ $T_A=25^\circ\text{C}$  unless otherwise specified**

Characteristic	Symbol	Test Condition	Min	Typ	Max	Units
Forward Voltage*	$V_F$	$I_F=100\text{mA}$	-	-	1.0	V
Reverse Leakage Current*	$I_R$	$V_R=100\text{V}$ $V_R=150\text{V}$ $V_R=200\text{V}$	-	-	0.1 0.15 0.2	$\mu\text{A}$
Diode capacitance	$C_T$	$V_R=0\text{V}, f=1.0\text{MHz}$	-	-	5	pF
Reverse recovery time	$t_{rr}$	$I_F=I_R=30\text{mA}, I_{rr}=0.1 \times I_R, R_L=100\ \Omega$	-	-	50	ns

\* Pulse width < 300  $\mu\text{s}$ , duty cycle < 2%

**Ratings and Characteristics Curves**

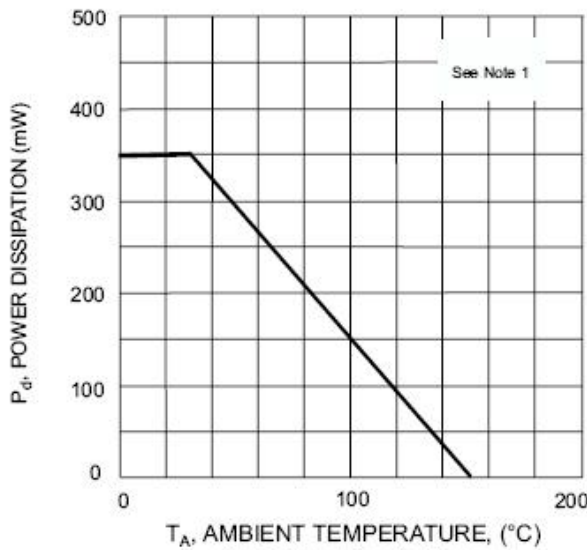


Fig. 1 Power Derating Curve

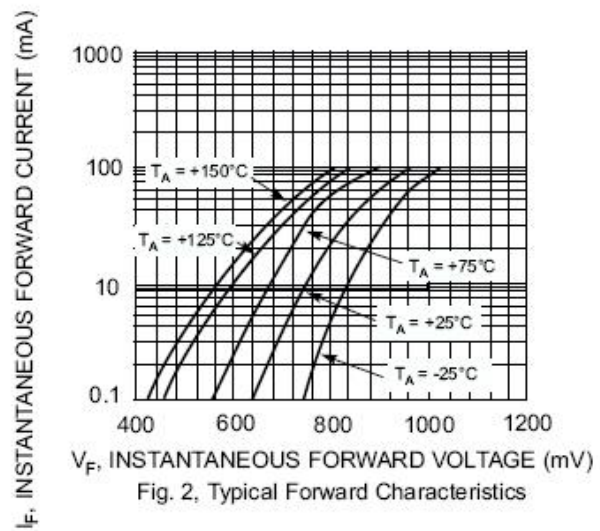


Fig. 2, Typical Forward Characteristics

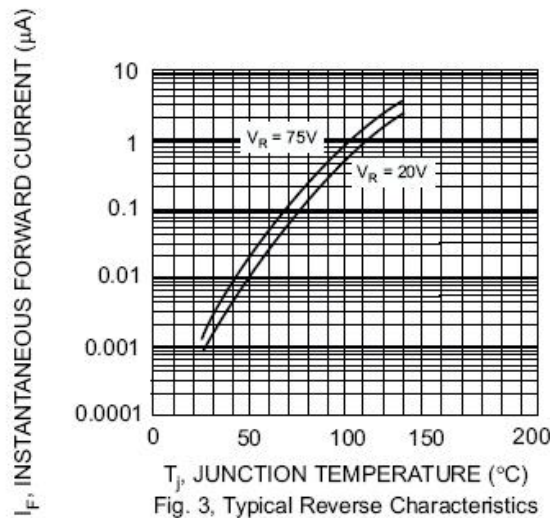


Fig. 3, Typical Reverse Characteristics

**Ordering Information**

Device	Package	Shipping
BAV19W-BAV21W	SOD-123 (Pb-Free)	3000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Marking Diagram**

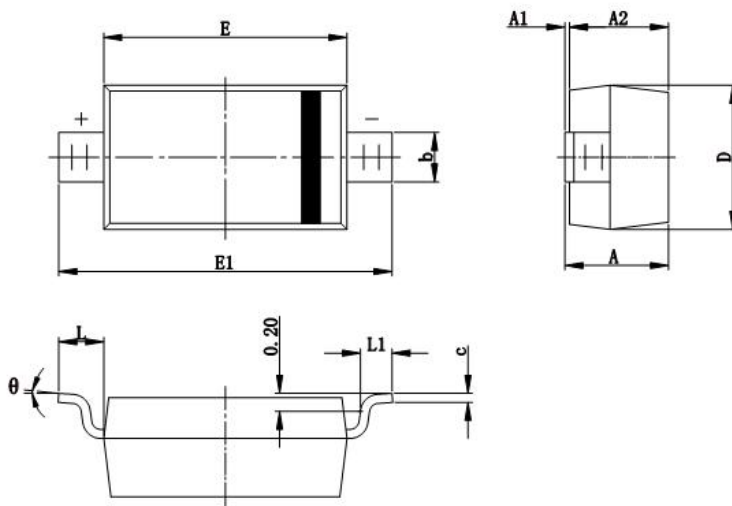
Marking before 16441(Date Code)

Part Number	Device Marking Code
BAV19W	A8
BAV20W	A80
BAV21W	A82

Marking from 16441(Date Code)

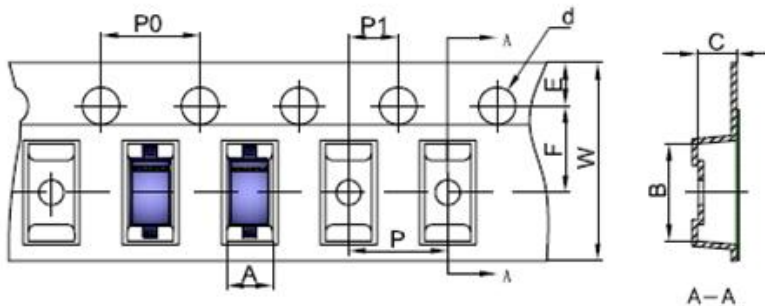
Part Number	Device Marking Code
BAV19W	A8
BAV20W	T2
BAV21W	T3

**Mechanical Dimensions SOD-123**



SYMBOL	Millimeters		Inches	
	MIN.	MAX.	MIN.	MAX.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF.		0.020 REF.	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

**Carrier Tape Specification SOD-123**



SYMBOL	Millimeters	
	Min.	Max.
A	1.80	1.90
B	3.89	3.99
C	1.52	1.62
d	1.45	1.65
E	1.65	1.85
F	3.40	3.60
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
W	7.90	8.30



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