

BAV19W THRU BAV21W

HIGH SPEED SWITCHING RECTIFIERS



VOLTAGE: 120~250 Volts	POWER: 500 mW	SOD-123	Marking and Polarity
FEATURES			
<ul style="list-style-type: none"> ■ Fast Switching Device (TRR <50 nS) ■ High Stability and High Reliability ■ Low reverse leakage 			
MECHANICAL DATA			
<ul style="list-style-type: none"> ■ Package: SOD-123 ■ Epoxy UL: 94V-0 ■ Mounting position: Any ■ Weight: App. 0.01 grams (0.0004 ounce) 		<p>Remark:</p> <p>①. xx=Module code,xx=A8,T2,T3</p> <p>②. White band denotes cathode</p>	
DEVICE MARKING			
Device	Marking		
BAV19W	A8		
BAV20W	T2		
BAV21W	T3		

Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

Parameter	Symbol	Value	Unit
Power Dissipation (Note 1)	P_D	500	mW
Average Rectified Output Current	I_{AV}	200	mA
Non-repetitive Peak Forward Current	I_{FM}	400	mA
Non-Repetitive Peak Forward Surge Current (@t=1.0us)	I_{FSM}	2.5	A
Operating Temperature Range	T_J	150	°C
Storage temperature range	T_{STG}	-55~+150	°C

Notes: 1.P. C. B mounted with 0.1*0.1*(2.54 x 2.54 mm) copper Pad Areas

Electrical Characteristic (Rating at 25°C ambient temperature unless otherwise specified.)

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
Breakdown Voltage	BAV19W	V_{BR}	120	-	-	V
	BAV20W		200	-	-	
	BAV21W		250	-	-	
Forward Voltage	I _F = 100mA	V_F	-	-	1	V
	I _F = 200mA		-	-	1.25	
Reverse current	V _R = 120V BAV19W	I_R	-	-	100	nA
	V _R = 200V BAV20W		-	-	100	nA
	V _R = 250V BAV21W		-	-	100	nA
Capacitance	V _R = 0V, f = 1MHz	C_T	-	-	5	pF
Reverse Recovery Time	I _F =I _R =30mA R _L =100Ω I _{RR} =3mA	t_{rr}	-	-	50	ns

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RATING AND CHARACTERISTIC CURVES

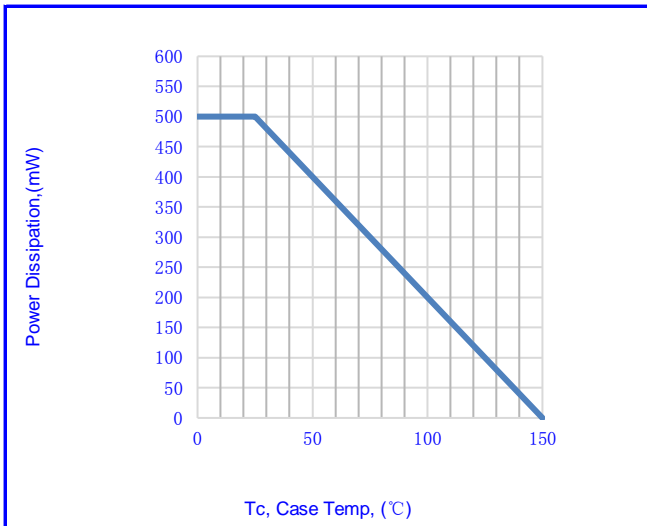


Fig.1-POWER DISSIPATION VS. AMBIENT TEMP.

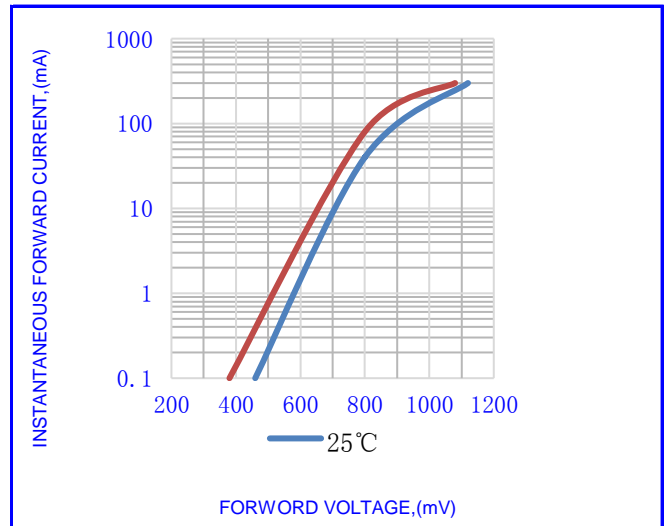


Fig.2- Forward characteristics

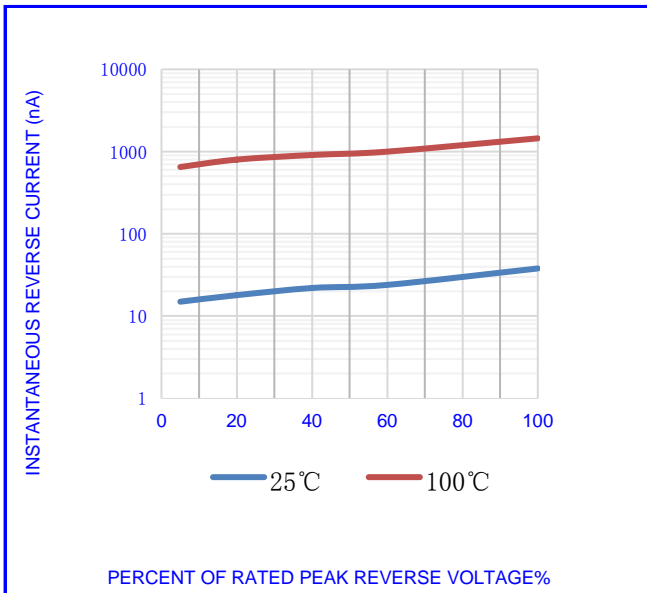


Fig.3- TYPICAL REVERSE CHARACTERISTICS

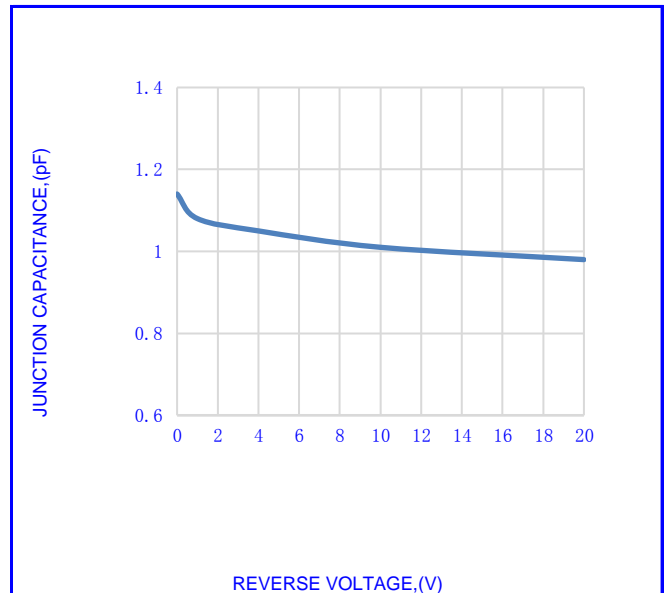


Fig.4- TYPICAL JUNCTION CAPACITANCE

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OUTLINE DRAWINGS				SOD-123		
				OUTLINE DIMENSIONS		
				Millimeters		
Dim.	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.500	-	2.800	0.098	-	0.110
B	3.600	-	3.900	0.142	-	0.154
C	1.400	-	1.800	0.055	-	0.071
D	0.950	-	1.350	0.037	-	0.053
E	0.500	-	0.700	0.020	-	0.028
F	-	-	0.200	-	-	0.008
G	0.400	-	-	0.016	-	-
H	-	-	0.120	-	-	0.005

RECOMMENDED LAYOUT DRAWINGS				SOD-123		
				RECOMMENDED MOUNTING PAD DIMENSIONS		
				Millimeters		
Dim.	Min.	Typ.	Max.	Min.	Typ.	Max.
A	--	4.250	--	--	0.167	--
B	--	1.220	--	--	0.048	--
C	--	2.700	--	--	0.106	--
D	--	0.780	--	--	0.031	--

PACKING INFORMATION				SOD-123		
Package Method	Reel Size (mm)	Quantity (pcs/reel)	Inner Box Size LxWxH(mm)	Quantity (pcs/Inner Box)	Carton Size LxWxH(mm)	Quantity (pcs/carton)
Tape Reel	Φ180	3000	210x210x203	45000	455x455x240	180000

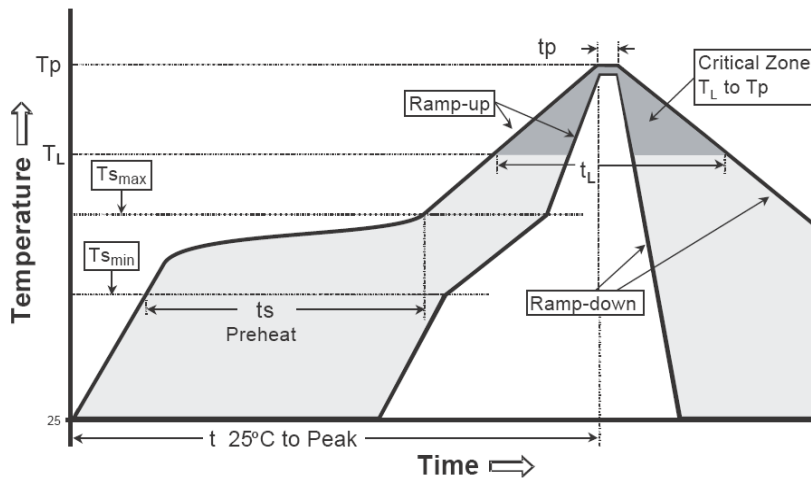
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Recommended wave soldering condition

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmax to Tp)	3°C/second max.	3°C/second max.
Preheat -Temperature Min(TS min) -Temperature Max(TS max) -Time(ts min to ts max)	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: -Temperature (TL) - Time (tL)	183°C 60-150 seconds	217°C 60-150 seconds
Peak Temperature(TP)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(tp)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

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