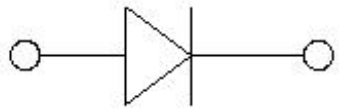
Small-Signal Switching Diodes





Features

- Moisture sensitivity level 1
- Reverse voltage: 100V/150V/200V
- Average forward current : 0.2A

Application

- High frequency rectifier
- Signal switching

Mechanical data

- **Package**: SOD-123
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102

■ **Maximum Ratings** (T_a=25℃ Unless otherwise specified)

Parameter	Symbol	Unit	Value	
Device marking code			BAV19W	A8
			BAV20W	T2
			BAV21W	T3
Repetitive peak reverse voltage	V_{RRM}	V	BAV19W	120
			BAV20W	200
			BAV21W	250
Forward current	I_F	A	0.2	
Non-repetitive surge peak forward current @ t=8.3ms half-sine wave	I_{FSM}	A	2	
Non-repetitive surge peak forward current @ t=1ms square wave			2.5	
Non-repetitive surge peak forward current @ t=1s square wave			1	
Power dissipation	P_D	mW	400	
Junction temperature	T_J	℃	-65 to +150	
Storage temperature	T_{STG}	℃	-65 to +150	

■ Electrical Characteristics (Ta=25℃ Unless otherwise specified)

Parameter	Symbol	Unit	Conditions		Min	Typ	Max
Breakdown voltage	V_R	V	BAV19W	I_R=10uA	100		
			BAV20W	I_R=10uA	150		
			BAV21W	I_R=10uA	200		
Forward voltage	V_F	V	I_F=100mA				1.0
			I_F=200mA				1.25
Reverse leakage current	I_R	nA	BAV19W	V_R=100V			100
			BAV20W	V_R=150V			100
			BAV21W	V_R=200V			100
Junction capacitance	Cj	pF	V_R=0V, f =1MHZ				5
Reverse recovery time	Trr	ns	I_F=I_R=30mA,R_L=100Ω,I_{RR}=3mA				50
Peak Forward Recovery Voltage	V_{FR}	V	IF=10A, di/dt=40A/S, Ta=25℃				7

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	RθJ-A(1)	℃/W	315
Thermal resistance, junction-to-case	RθJ-C(1)	℃/W	250

Note:

（1）Thermal resistance from junction to ambient and from junction to case mounted on P.C.B. with 8mm*9mm copper pad areas

■Characteristics

Fig 1：P_D-Ta Curve

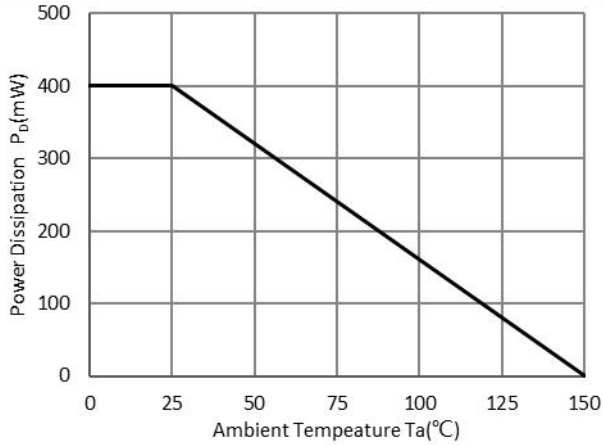


Fig 2：Capacitance Capability

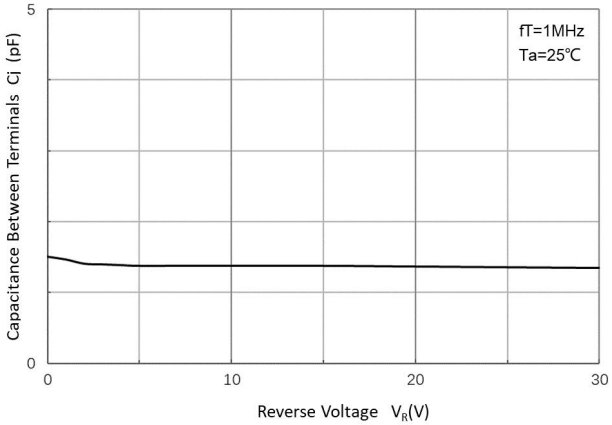


Fig 3：Typical Forward Characteristics

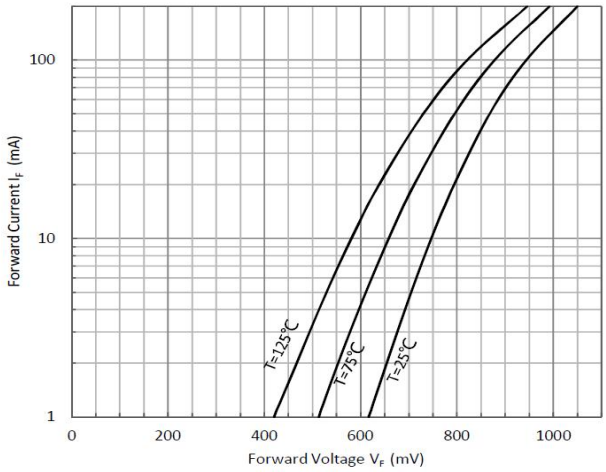
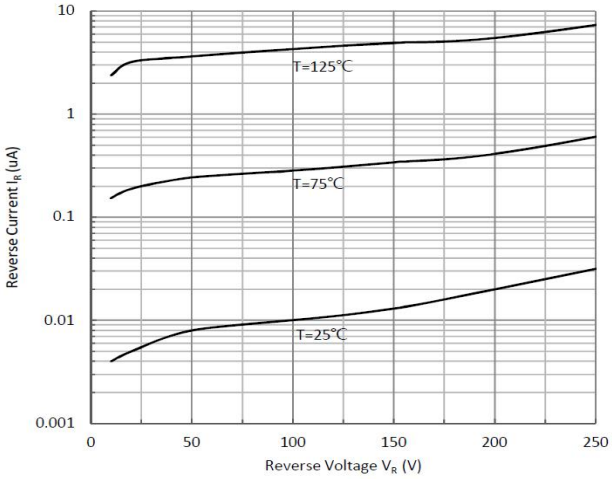


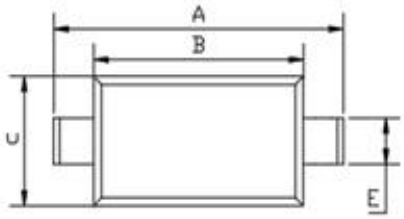
Fig 4：Typical Reverse Characteristics



■Ordering Information

Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
BAV19W THRU BAV21W	F2	Approximate 0.011	3000	30000	120000	7” reel
BAV19W THRU BAV21W	F3	Approximate 0.011	10000	/	210000	13” reel

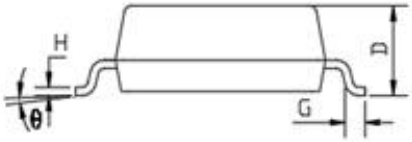
■ Outline Dimensions



TOP VIEW



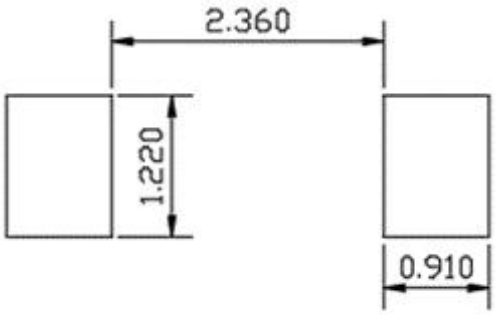
SIDE VIEW



SIDE VIEW

DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MN	MAX
A	0.140	0.152	3.550	3.850
B	0.100	0.112	2.550	2.850
C	0.055	0.071	1.400	1.800
D	0.037	0.053	0.950	1.350
E	0.020	0.028	0.510	0.710
G	0.006	0.018	0.150	0.450
H	0.003	0.010	0.080	0.250
J	0.000	0.006	0.000	0.150
θ	0	8°	0	8°

■ Suggested Pad Layout



UNIT: mm

Note:
1. All dimensions are in millimeters (mm) unless otherwise specified.
[所有尺寸均以毫米为单位，除非另有说明]
2. General tolerances: ±0.10mm unless otherwise specified.
[通用公差为±0.10mm，除非另有说明]
3. Dimensions and tolerances per ASME Y14.5M-2018.
[尺寸和公差遵循 ASME Y14.5M-2018 标准]
4.All dimensions shown are exclusive of burrs and gate residues.
Burrs and gate vestiges shall not exceed 0.15 mm in maximum.
[所有尺寸均不包括毛刺和浇口残留。毛刺与浇口残留的尺寸最大不得超过 0.15mm]
5.Dimension b does not include dambar protrusion of max 0.100 mm per side.
[尺寸b不包括单边最大0.100 MM的中筋凸出部分]
6.Dimensions B and C are the overall extreme outer dimensions of the mold compound. These dimensions exclude mold flash, lead flash, protrusions and burrs but include the maximum allowable mold mismatch.
[B和C是塑封体的外部极限尺寸，不包括包封溢料、内引线溢料、凸出部分以及胶体毛刺，但是包含了包封错位的最大尺寸]
7.Formed leads shall be planar with respect to one another within a maximum of 0.076 mm relative to the seating plane.
[成型的管脚应为同一平面，共面性最大为0.1mm]
8. ★It is the key size.
[★ 标记为关键尺寸]

Notice

All products, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise. Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in STARSEA's terms and conditions of sale for such products, STARSEA assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of STARSEA products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.