

SuperDiode – 500mW, 50nS SOD-123 Fast Switching Diode

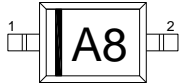

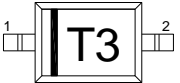
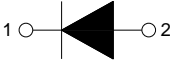
1. Features

- Fast switching device ($T_{rr} < 50ns$)
- Power dissipation of 500mW
- High stability and high reliability
- Low reverse leakage

2. Mechanical Data

- SOD-323 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Epoxy:94V-0

3. Marking and Circuit

BAV19W	BAV20W	BAV21W	Circuit
			

4. Specification

Absolute Maximum Rating & Thermal Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

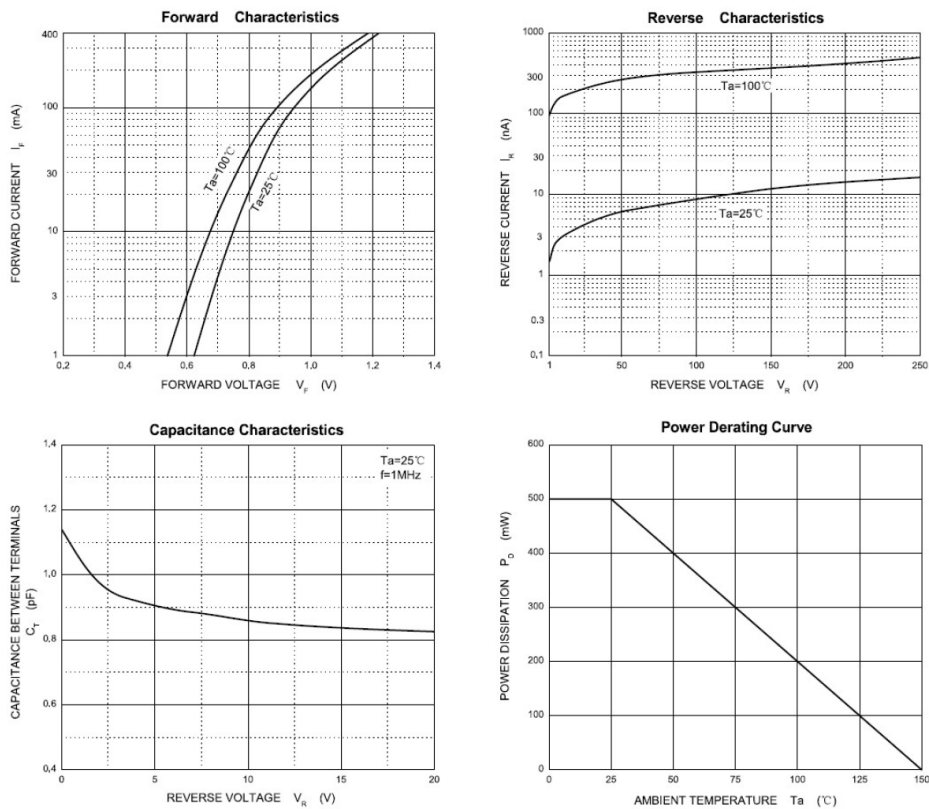
Parameters	Symbol	Value			Unit
		BAV19W	BAV20W	BAV21W	
Reverse voltage	V_R	120	200	250	V
Peak reverse voltage	V_{RM}	100	150	250	V
Power dissipation	P_D	500			mW
Operating junction temperature	T_J	150			°C
Storage temperature range	T_S	-65~150			°C
Thermal resistance from junction to ambient	$R_{\theta JA}$	250			°C/W
Working Inverse Voltage	WIV	75			V
Average rectified current	I_O	200			mA
Peak forward surge current @ $t_p=1ms$	I_{FSM}	2.5			A
Non-repetitive peak forward current	I_{FM}	400			mA

Valid provided that electrodes are kept at ambient temperature

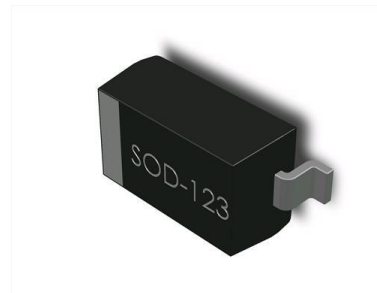
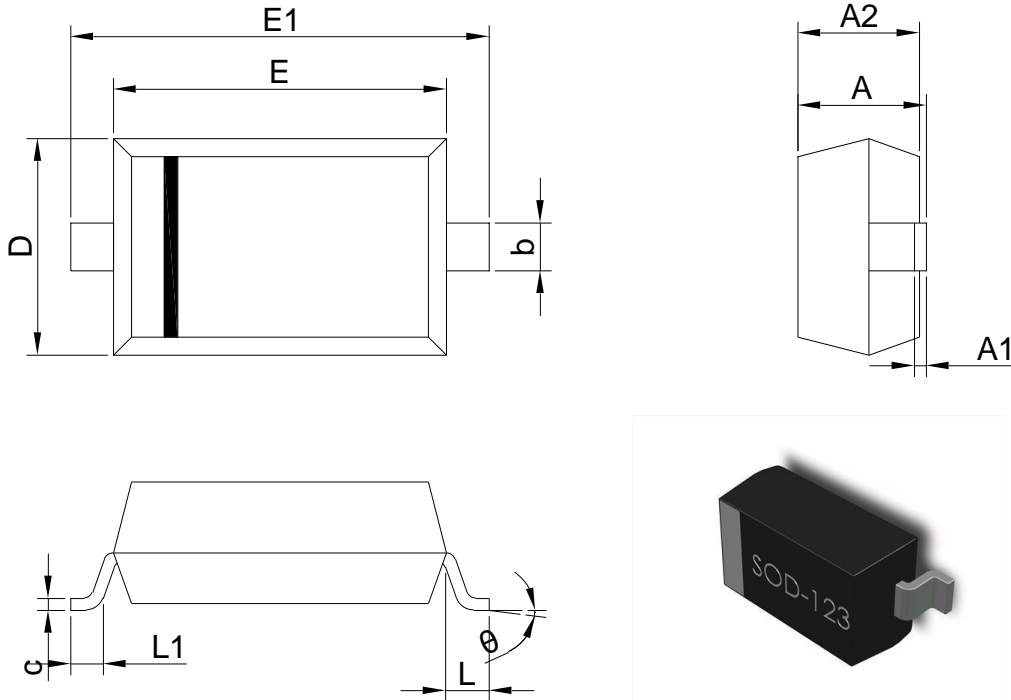
Electrical Characteristics (At TA = 25°C unless otherwise specified)

Symbols	Parameter	Test Condition	Limits		Unit
			Min	Max	
V _{RB}	Reverse Breakdown Voltage	I _R =100uA	BAV19W	120	V
			BAV20W	200	
			BAV21W	250	
I _R	Reverse Leakage Current	V _R =100V	BAV19W	0.1	uA
		V _R =150V	BAV20W		
		V _R =200V	BAV21W		
V _F	Forward Voltage	I _F =100mA		1.00	V
		I _F =200mA		1.25	
T _{RR}	Reverse Recovery Time	I _F = I _R =30mA		50	ns
		R _L =100Ω			
		I _{RR} =3mA			
C _T	Junction Capacitance	V _R =0V, f=1MHZ		5	pF

5. Typical Characteristic

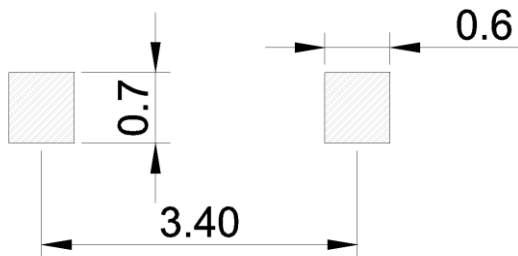


6. Dimension and Patterns (SOD-123)



Units: mm

Symbol	Min.	Max.	Symbol	Min.	Max.
A	1.05	1.25	E	2.60	2.80
A1	0.00	0.10	E1	3.55	3.85
A2	1.05	1.15	L	0.50REF	
b	0.45	0.65	L1	0.25	0.45
c	0.08	0.15	θ	0°	8°
D	1.50	1.70			



Note:

1. Controlling dimension: in millimeters
2. General tolerance: ±0.05mm
3. The pad layout is for reference only
4. Unit: mm

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