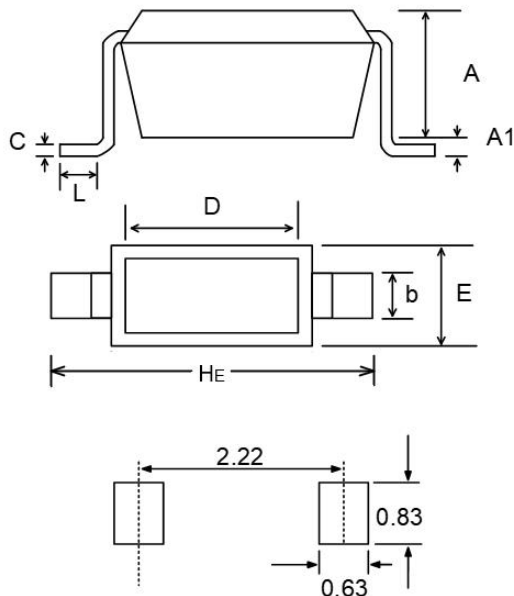


Features

- ◆ Fast switching speed
- ◆ For surface mounted applications
- ◆ For general purpose switching applications
- ◆ Built-in strain relief, ideal for automated placement
- ◆ Plastic package has underwriters laboratory flammability 94V-0
- ◆ RoHS compliant
- ◆ Moisture Sensitivity: Level 1 per J-STD-020
- ◆ Case: SOD-323
- ◆ Polarity: Color band denotes positive end (cathode) except bi-directional models



Dimensions (SOD-323)



Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.80	1.00	0.031	0.040
A1	0.00	0.10	0.000	0.004
b	0.25	0.4	0.012	0.016
C	0.089	0.177	0.005	0.007
D	1.60	1.80	0.066	0.070
E	1.15	1.35	0.049	0.053
HE	2.30	2.70	0.098	0.105
L	0.08	--	0.003	--

Maximum Ratings ($T_A=25^{\circ}\text{C}$ Unless Otherwise Noted)

Item		Symbol	BAV19WS	BAV20WS	BAV21WS	Unit
Power Dissipation (Note 2)		P _D	200			mW
Non-repetitive peak reverse voltage		V _{RM}	120	200	250	V
Peak repetitive reverse voltage		V _{RRM}	100	150	200	V
Working peak reverse voltage		V _{RWM}				
DC blocking voltage		V _R				
RMS reverse voltage		V _{R(RMS)}	71	106	141	V
Reverse breakdown voltage (Note 3) @I _R = 100μA		V _{(BR)R} Min	120	200	250	V
Forward continuous current (Note 1)		I _{FM}	250			mA
Average Rectified Output Current (Note 1)		I _O	200			mA
Forward voltage	I _F = 100mA	V _{FM max}	1.0			V
	I _F = 200mA		1.25			
Peak reverse current @ rated DC blocking voltage (Note 3)	T _J = +25°C	I _{RM Max}	100			nA
	T _J = +100°C		15			uA
Non-repetitive peak forward surge current	@t = 10ms	I _{FSM}	1.7			A
Repetitive peak forward surge current		I _{FRM}	625			mA
Operating and Storage Temperature Range		T _J , T _{STG}	-55 to +150			°C
Thermal Resistance Junction to Ambient Air (Note 2)		R _{θJA}	625			°C/W
Total capacitance V _R = 0, f = 1.0MHz		C _{T Max}	5.0			pF
Reverse recovery time I _F = I _R = 30mA,I _{RR} = 0.1 x I _R , R _L =100 Ω		t _{RR Max}	50			ns

Notes:

1. I_{FM} is valid provided that terminals are kept at ambient temperature.
2. Part mounted on FR-4 PC board with minimum recommended pad layout.
3. Short duration pulse test used to minimize self-heating effect.

Ratings and Characteristic Curves (T_A=25°C unless otherwise noted)

Figure 1. Power Derating Curve

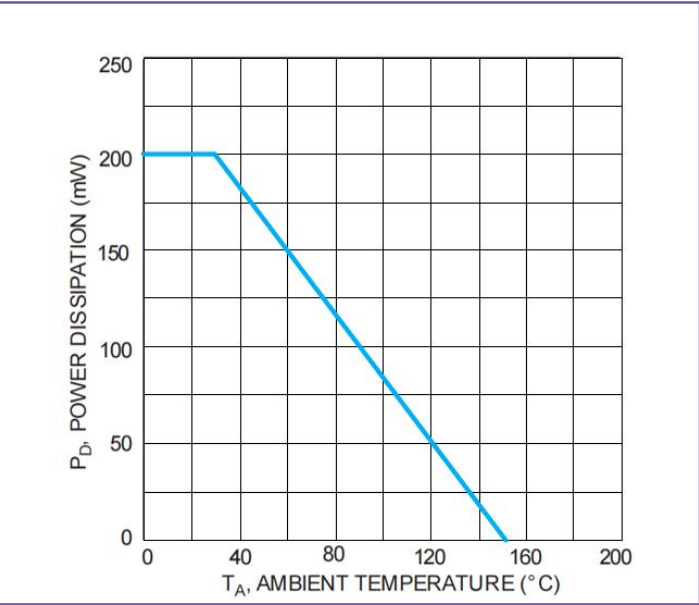


Figure 2. Typical Forward Characteristics

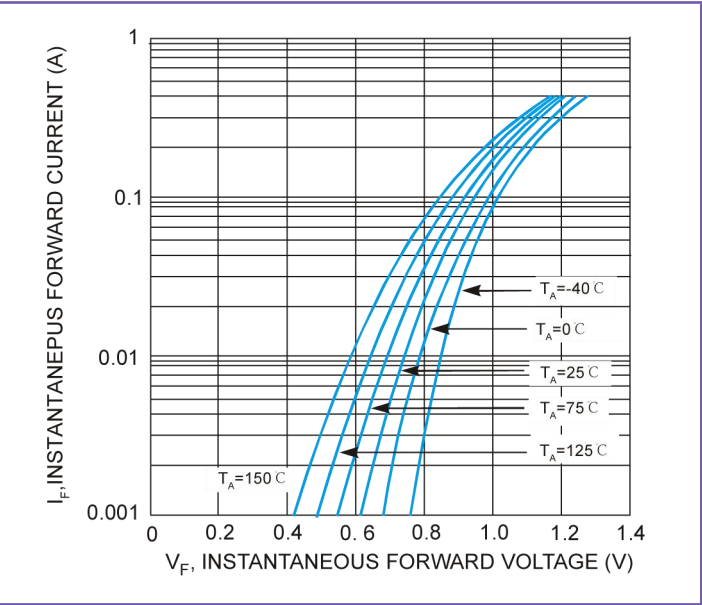


Figure 3. Typical Reverse Characteristics

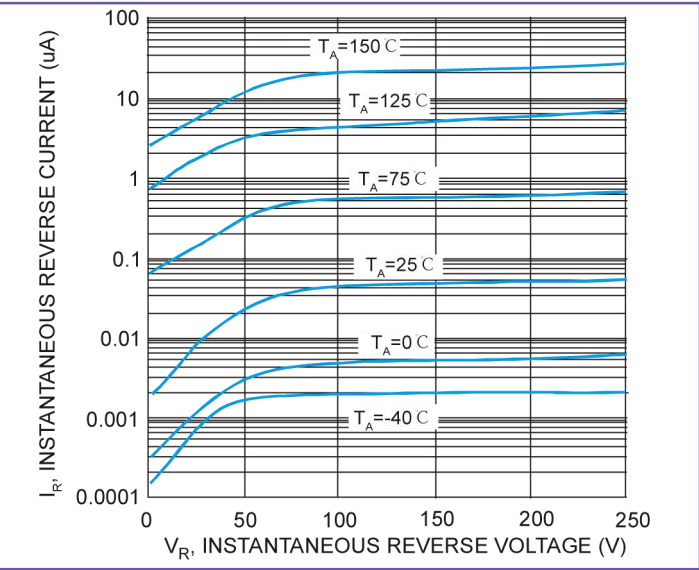
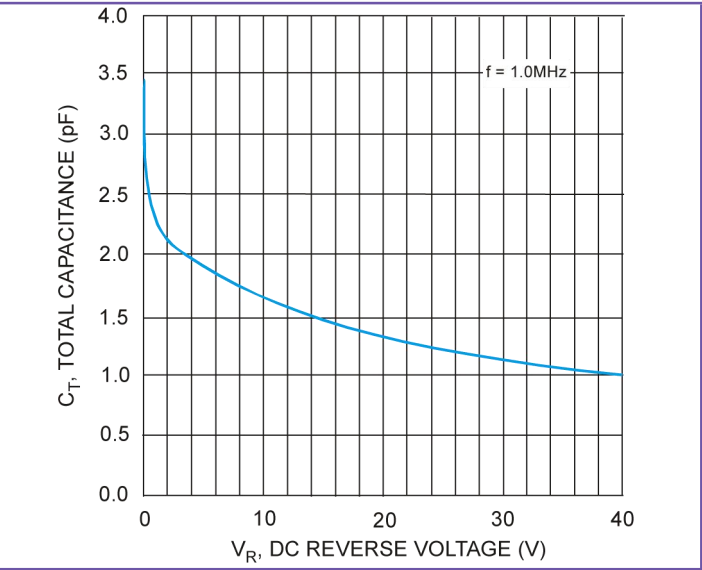
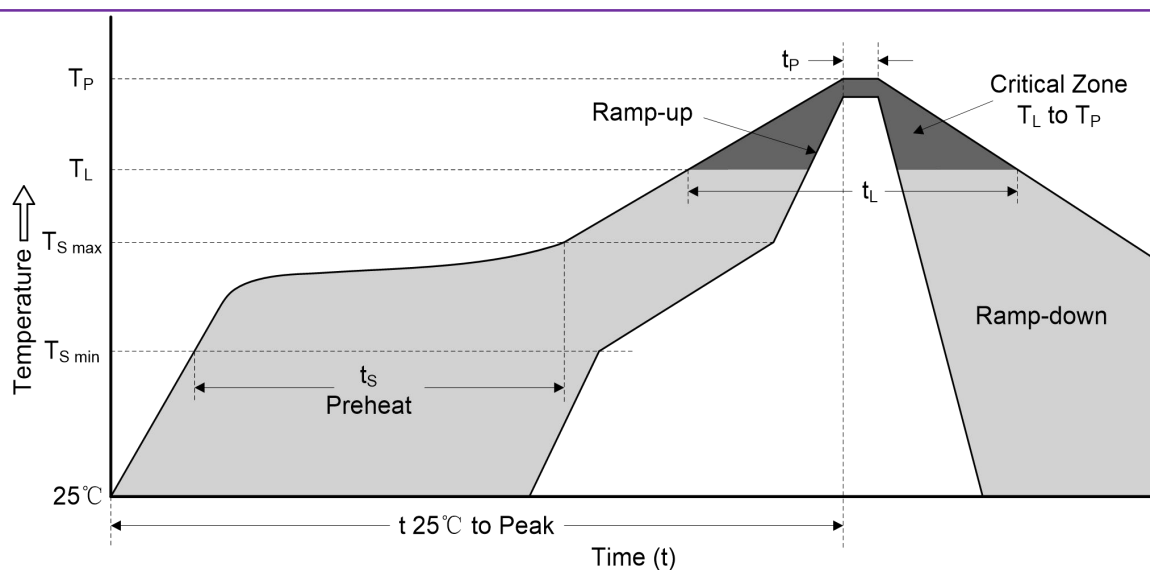


Figure 4. Total Capacitance vs . Reverse Voltage



Reflow Soldering Parameters



Reflow Condition		Lead-free Assembly
Pre heat	-Temperature Min ($T_{S\ min}$)	150°C
	-Temperature Max ($T_{S\ max}$)	200°C
	-Time (min to max) (t_s)	60-180 seconds
Average ramp-up rate (T_L to T_P)		3°C/second max.
$T_{S\ max}$ to T_L -Ramp-up Rate		3°C/second max.
Reflow	-Temperature (T_L) (Liquidus)	217°C
	-Time (min to max) (t_s)	60-150 seconds
Peak Temperature (T_P)		260(+0/-5)°C
Time within 5°C of actual Peak Temperature (t_p)		20-40 seconds
Ramp-down Rate		6°C/second max.
Time 25°C to Peak Temperature(T_P)		8 minutes max.
Do not exceed		260°C