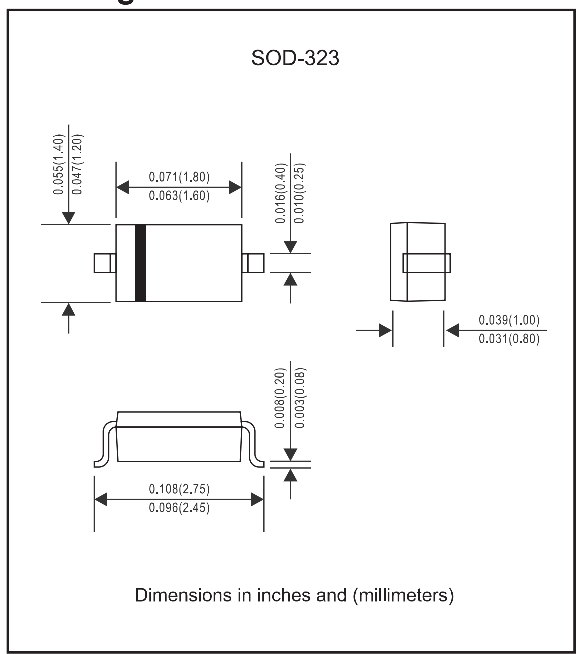
BAV19WS~BAV21WS

200mA Surface Mount Switching Diode-100V-200V

Features

- Low Reverse Current.
- Surface Mount Package Ideally Suited for Automatic Insertion.
- Fast Switching Speed.
- For General Purpose Switching Applications.
- Silicon epitaxial planar chip.
- Lead-free parts meet RoHS requirments.
- Compliant to Halogen-free

Package outline



Mechanical data

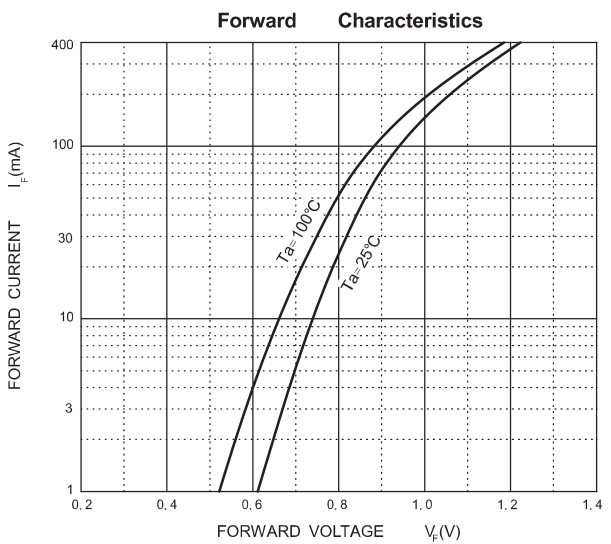
- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-323
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any

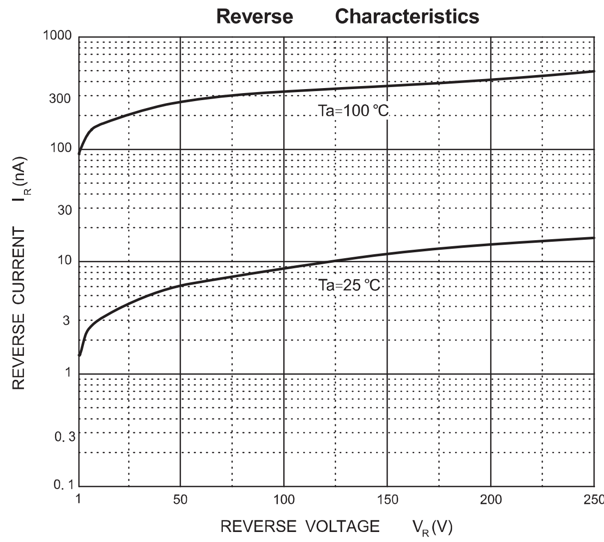
Maximum ratings and Electrical Characteristics (AT T_A=25°C unless otherwise noted)

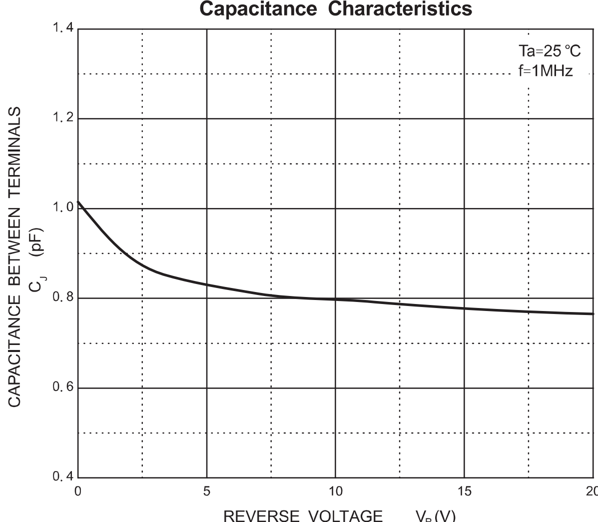
PARAMETER	CONDITIONS	Symbol	BAV19WS	BAV20WS	BAV21WS	UNIT
Non-repetitive peak reverse voltage		V_{RM}	120	200	250	V
Working Peak Reverse Voltage		V_R	100	150	200	V
RMS Reverse Voltage		$V_{R(RMS)}$	70	105	140	V
Average rectified output current(1)		I_O	200			mA
Non-repetitive peak forward surge current	@t = 8.3ms	I_{FSM}	2.0			A
Peak Forward Surge Current		I_{FRM}	625			mA
Power dissipation		P_D	250			mW
Typical Thermal resistance	Junction to ambient air(1)	$R_{\theta JA}$	625			°C/W
Operating junction temperature range		T_J	-55 ~ +150			°C
Storage temperature range		T_{STG}	-55 ~ +150			°C
Maximum Forward voltage	I_F = 100 mA I_F = 200 mA	V_F	1.00 1.25			V
Maximum Reverse leakage current	@ Working Peak Reverse Voltage	I_R	100			nA
Maximum Total capacitance	V_R = 0 V , f = 1.0MHz	C_J	5.0			pF
Maximum Reverse recovery time	I_F = I_R = 30mA , I_{RR} = 0.1 X I_R , R_L = 100_{OHM}	t_{rr}	50			ns

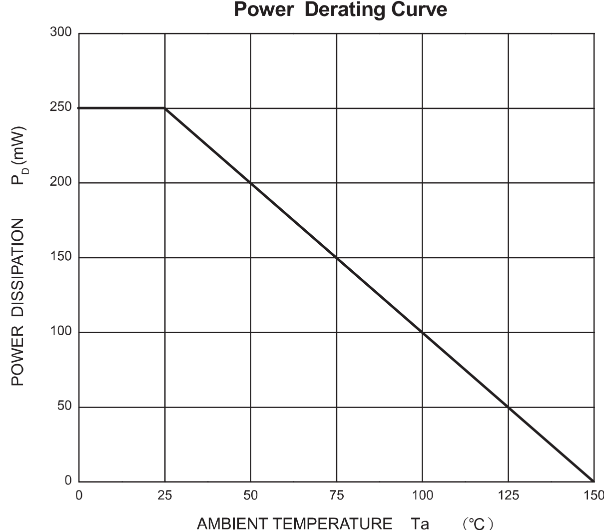
Note 1. Valid provided that electrodes are kept at ambient temperature.

Rating and characteristic curves









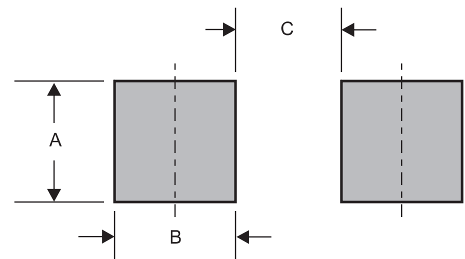
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode	1 2	1 2

Marking

Type number	Marking code
BAV19WS	A8
BAV20WS	T2
BAV21WS	T3

Suggested solder pad layout

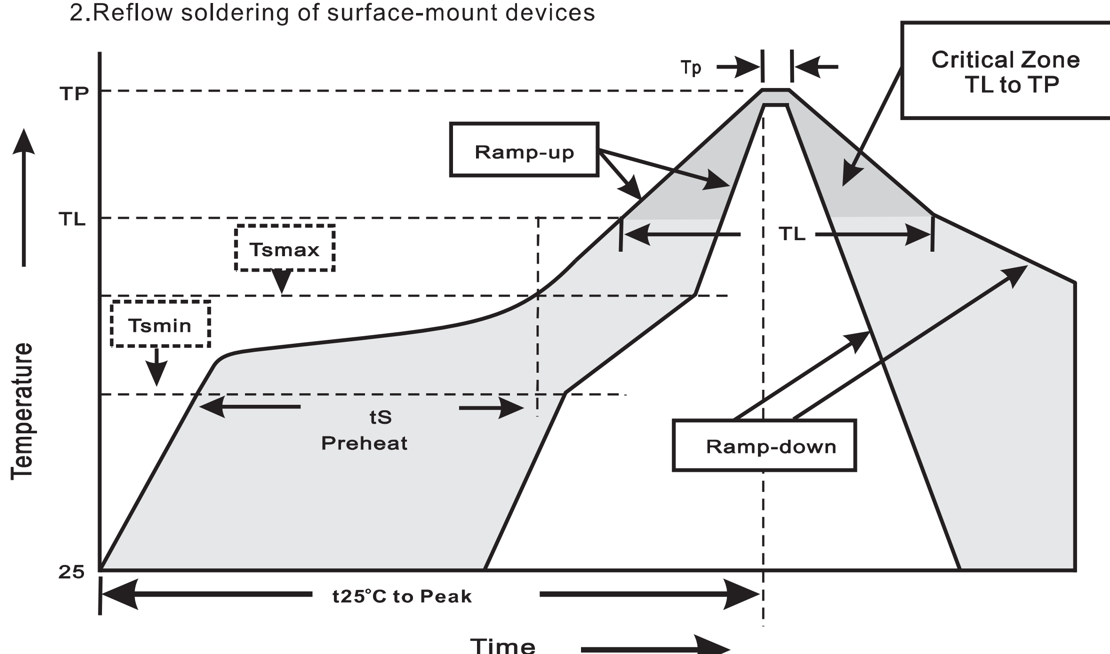


Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-323	0.032 (0.82)	0.022 (0.56)	0.069 (1.75)

Suggested thermal profiles for soldering processes

1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T_L to T_P)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(t_s)	150°C 200°C 60~120sec
Tsmax to T_L -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(T_L) -Time(t_L)	217°C 60~260sec
Peak Temperature(T_P)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t_P)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes