

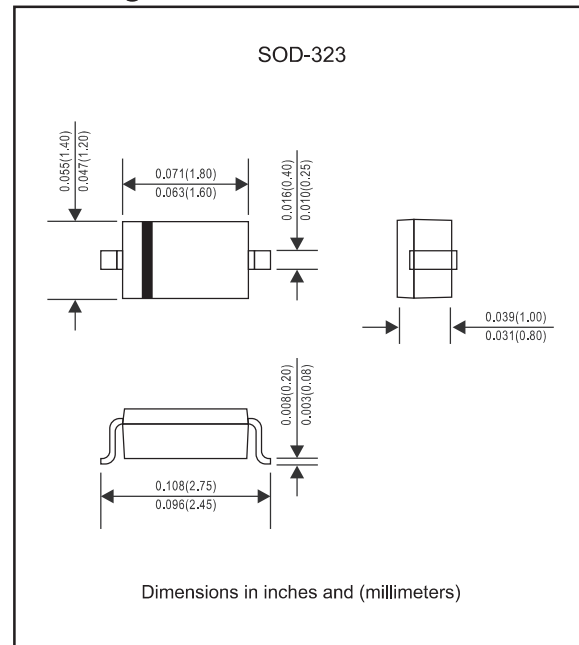
Features

- 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 requirements.
- Compliant to Halogen-free

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

Package outline

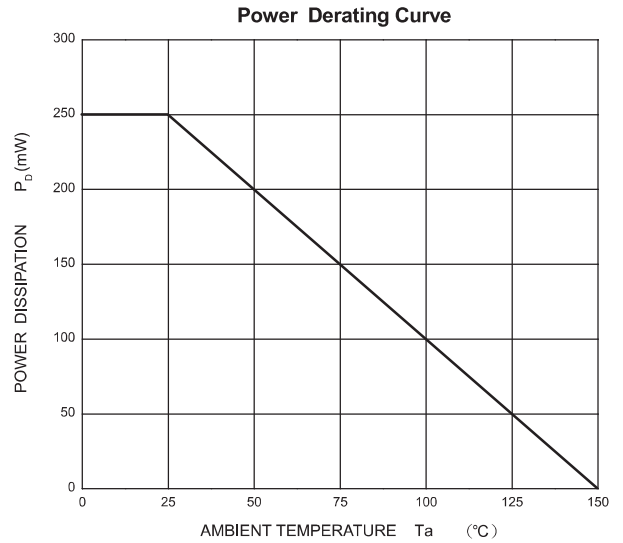
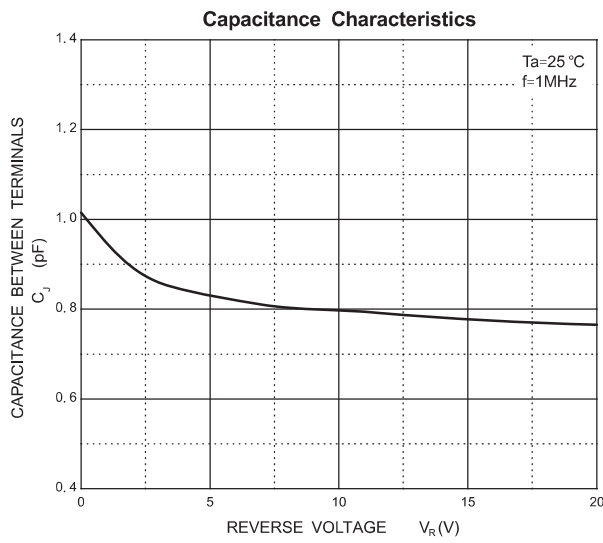
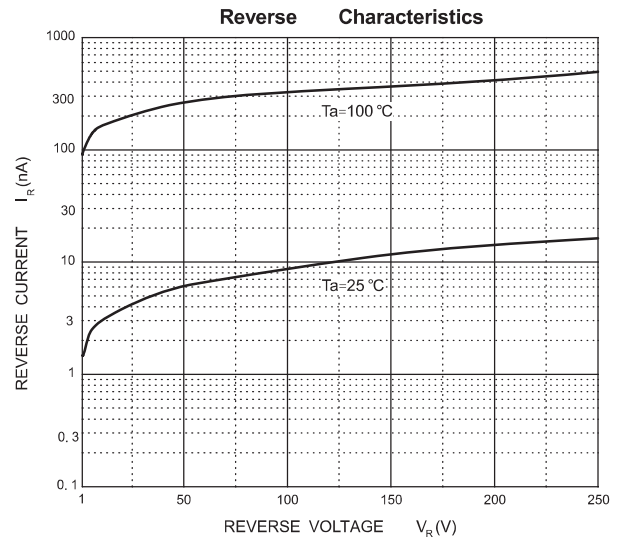
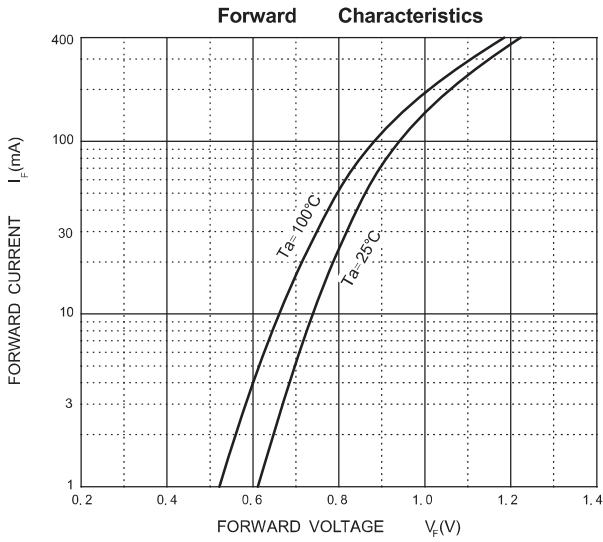


Maximum ratings and Electrical Characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)



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			$^{\circ}\text{C}/\text{W}$
Operating junction temperature range		T_J	-55 ~ +150			$^{\circ}\text{C}$
Storage temperature range		T_{STG}	-55 ~ +150			$^{\circ}\text{C}$
Maximum Forward voltage	$I_F = 100 \text{ mA}$ $I_F = 200 \text{ mA}$	V_F	1.00 1.25			V
Maximum Reverse leakage current	@ Working Peak Reverse Voltage	I_R	100			nA
Maximum Total capacitance	$V_R = 0 \text{ V}$, $f = 1.0\text{MHz}$	C_J	5.0			pF
Maximum Reverse recovery time	$I_F = I_R = 30\text{mA}$, $I_{RR} = 0.1 \times I_R$, $R_L = 100_{\Omega}$	t_{rr}	50			ns

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

Rating and characteristic curves



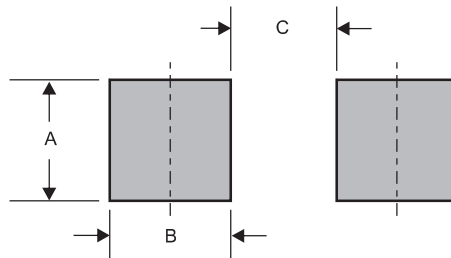
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
BAV19WS	A8
BAV20WS	T2
BAV21WS	T3

Suggested solder pad layout

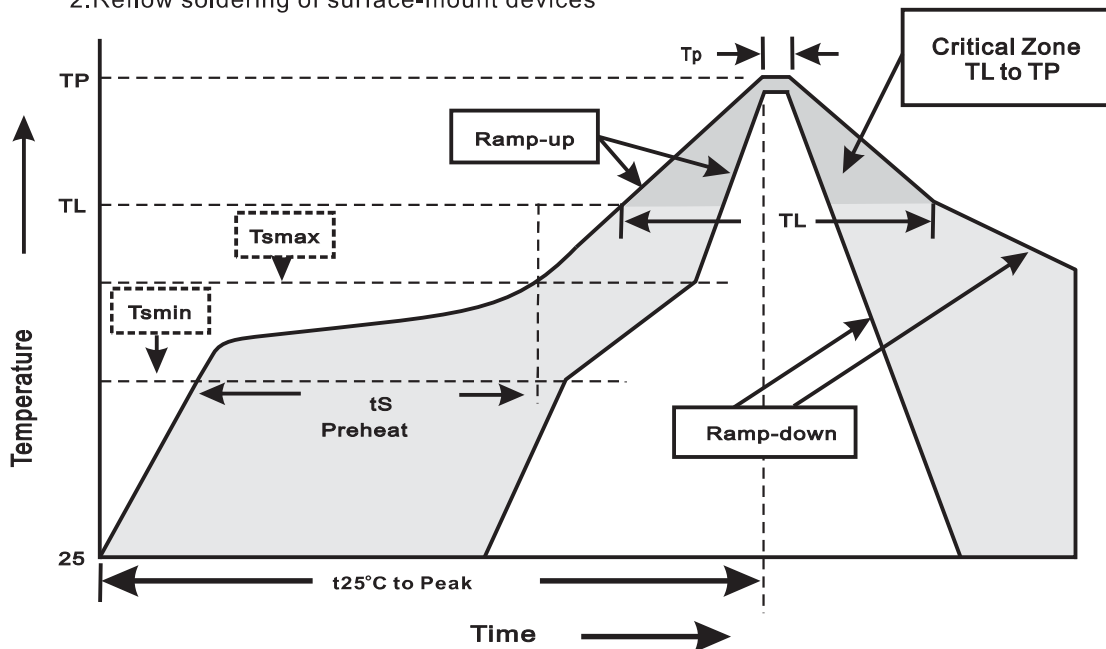


Dimensions in inches and (millimeters)

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(TL to TP)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(ts)	150°C 200°C 60~120sec
Tsmax to TL -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(TL) -Time(tL)	217°C 60~260sec
Peak Temperature(TP)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(tp)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes

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