

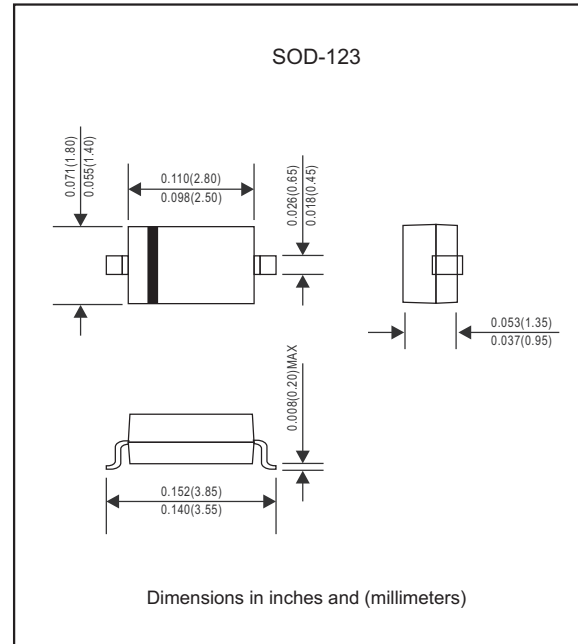
Features

- Fast speed switching.
- For general purpose switching application.
- High conductance.
- Silicon epitaxial planar chip
- Lead-free parts meet RoHS requirements.
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

Mechanical data

- Epoxy:UL94-VO rated flame retardant
- Case : Molded plastic, SOD-123
- 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	BAV19W-Q1	BAV20W-Q1	BAV21W-Q1	UNIT
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				
Forward Continuous Current (1)		I_{FM}	400			mA
Average rectified output current(1)		I_O	200			mA
Non-repetitive peak forward surge current	@t = 1.0 ms @t = 1.0 s	I_{FSM}	2.5 0.5			A
Power dissipation		P_D	250			mW
Typical Thermal resistance	Junction to ambient air(1)	R_{BJA}	500			$^\circ\text{C}/\text{W}$
Operating temperature		T_J	-55 ~ +150			$^\circ\text{C}$
Storage temperature		T_{STG}	-65 ~ +150			$^\circ\text{C}$
Maximum Forward voltage	$I_F = 100\text{ mA}$ $I_F = 200\text{ mA}$	V_F	1.0 1.25			V
Maximum Reverse leakage	@rated DC blocking voltage, $T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$	I_R	100 15			nA uA
Maximum Total capacitance	$V_R = 1.0\text{ V}$, $f = 1.0\text{ MHz}$	C_J	5.0			pF
Maximum Reverse recovery time	$I_F = I_R = 30\text{ mA}$, $I_{RR} = 0.1 \times I_R$, $R_L = 100_{\text{OHM}}$	t_{rr}	50			ns

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

Rating and characteristic curves(BAV19W-Q1 THRU BAV21W-Q1)

FIG.1-POWER DERATING CURVE

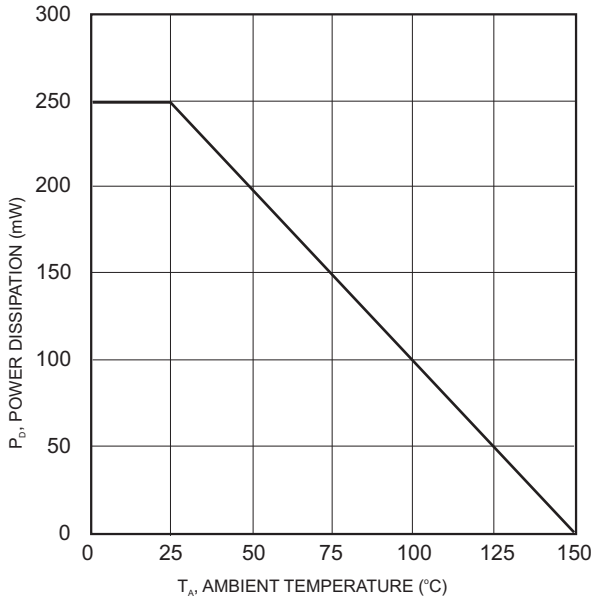


FIG.2-TYPICAL CAPACITANCE VS. REVERSE VOLTAGE

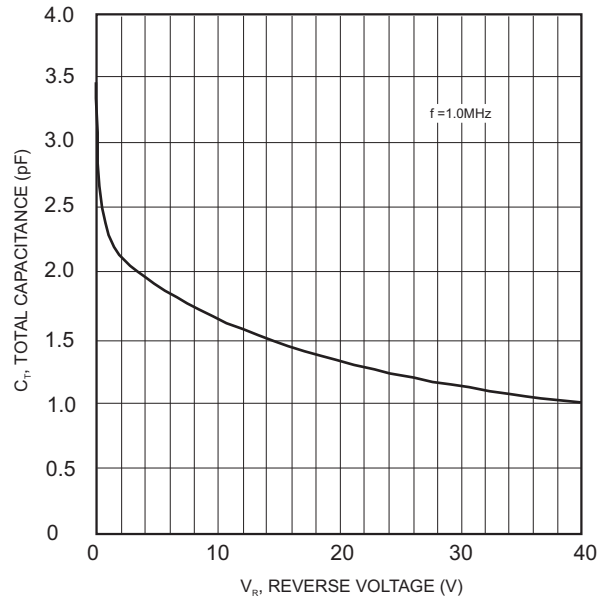


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

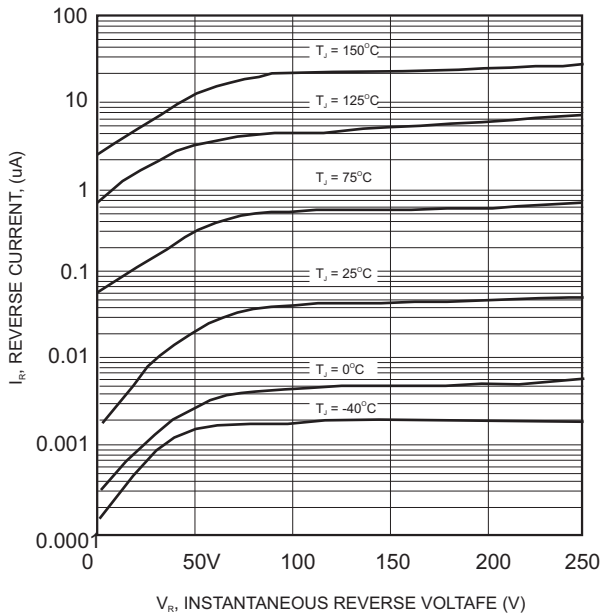
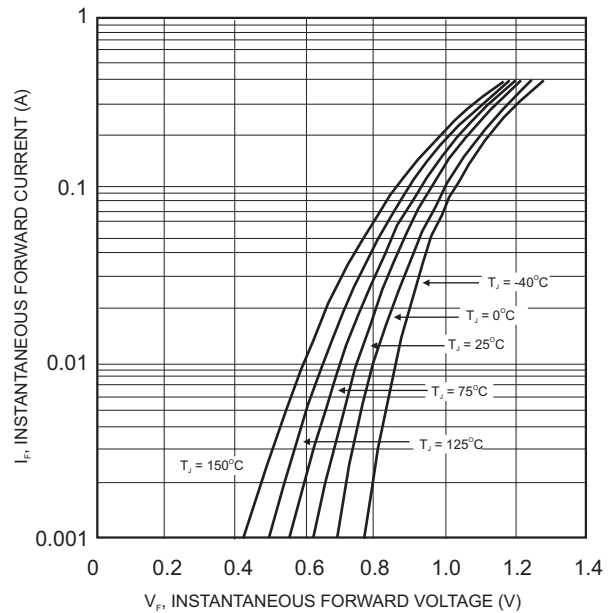




FIG.4-TYPICAL FORWARD CHARACTERISTICS



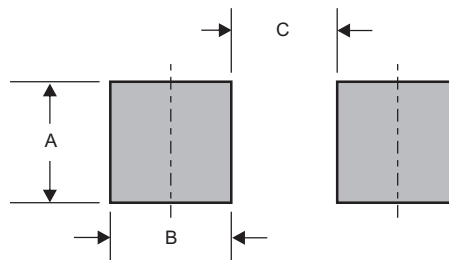
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
BAV19W-Q1	A8
BAV20W-Q1	T2
BAV21W-Q1	T3

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-123	0.059 (1.50)	0.059 (1.50)	0.094 (2.40)