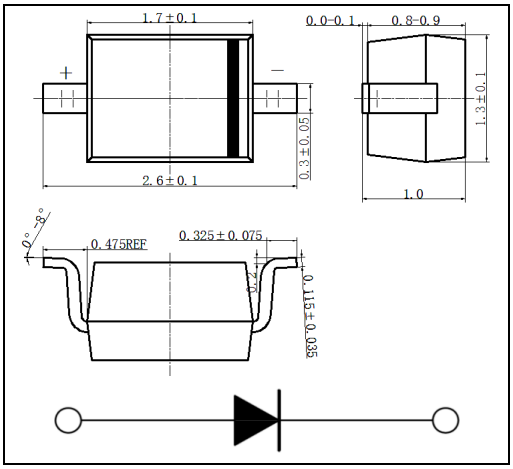
SHENZHEN LONG JING MICRO-ELECTRONICS CO., LTD.

SOD-323 Plastic-Encapsulate Diodes

BAV19WS - BAV21WS SURFACE MOUNT FAST SWITCHING DIODE



Mechanical Data

- Case Material: Molded Plastic, “Green” Molding Compound. UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208

Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automated Insertion
- For General Purpose Switching Applications
- High Conductance
- **Lead Free/RoHS Compliant (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Maximum Ratings @T_A = 25°C unless otherwise specified

Symbol	Characteristic	BAV19WS	BAV20WS	BAV21WS	Unit
V_{RRM}	Repetitive Peak Reverse Voltage	120	200	250	V
V_{RWM} V_R	Working Peak Reverse Voltage DC Blocking Voltage	100	150	200	V
$V_{R(RMS)}$	RMS Reverse Voltage	71	106	141	V
I_{FM}	Forward Continuous Current (Note 1)	250			mA
I_O	Average Rectified Output Current (Note 1)	200			mA
I_{FSM}	Non-Repetitive Peak Forward Surge Current @ t = 1.0μs @ t = 1.0s	2.5 0.5			A
I_{FRM}	Repetitive Peak Forward Surge Current	625			mA

Thermal Characteristics

Symbol	Characteristic	Value	Unit
P_D	Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance Junction to Ambient Air (Note 1)	625	°C/W
T_J , T_{STG}	Operating and Storage Temperature Range	-65 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Symbol	Characteristic	Test Condition	Min	Max	Unit
$V_{(BR)R}$	Reverse Breakdown Voltage (Note 2) BAV19WS BAV20WS BAV21WS	I_R = 100μA	120 200 250	—	V
V_F	Forward Voltage	I_F = 100mA I_F = 200mA	—	1.0 1.25	V
I_R	Peak Reverse Current @ Rated DC Blocking Voltage (Note 2)	T_J = 25°C T_J = 100°C	—	100 15	nA μA
C_T	Total Capacitance	V_R = 0, f = 1.0MHz	—	5.0	pF
t_{rr}	Reverse Recovery Time	I_F = I_R = 30mA, I_{rr} = 0.1 x I_R, R_L = 100Ω	—	50	ns

Notes:
1. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
2. Short duration pulse test used to minimize self-heating effect.
3. No purposefully added lead. Halogen and Antimony Free.
4 Product manufactured with Data Code V9 (week 33, 2008) and newer are built with Green Molding Compound. Product manufactured prior to Date Code V9 are built with Non-Green Molding Compound and may contain Halogens or Sb_2O_3 Fire Retardants.

Typical Characteristics

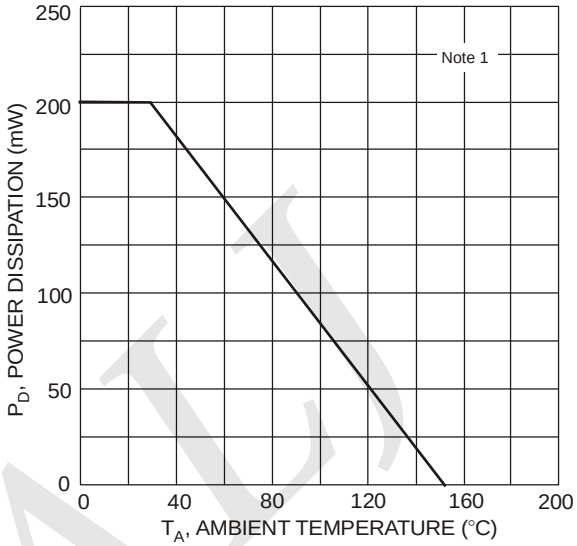


Fig. 1 Power Derating Curve

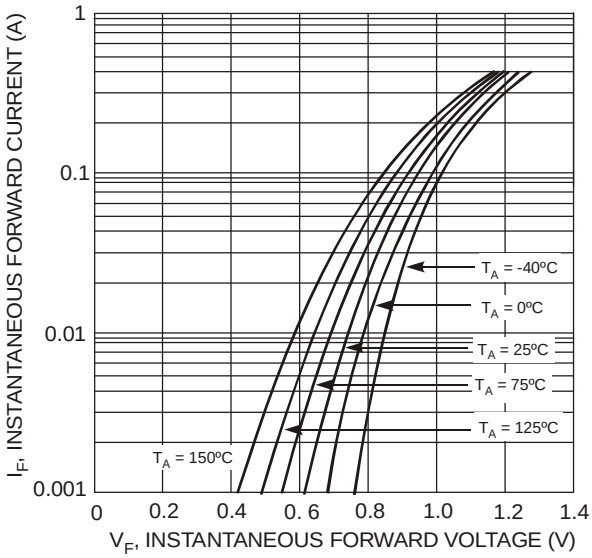


Fig. 2 Typical Forward Characteristics

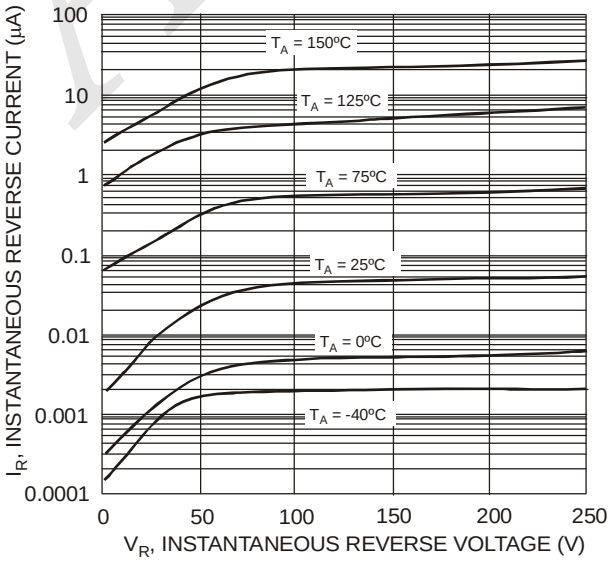


Fig. 3 Typical Reverse Characteristics

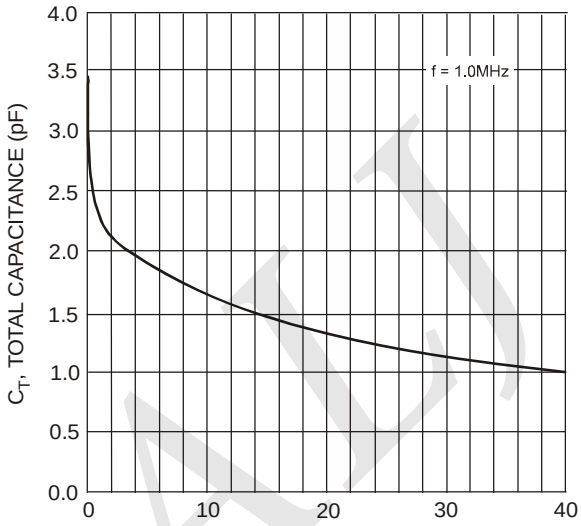


Fig. 4 Total Capacitance vs. Reverse Voltage