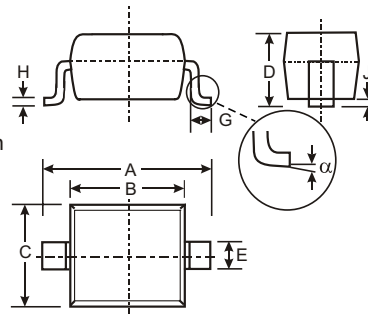


Features

- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- Available in Lead Free/RoHS Compliant Version (Note 3)

Mechanical Data

- Case: SOD-323
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Leads: Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe). Please See Ordering Information, Note 5, on Page 2
- Polarity: Cathode Band
- Marking: See Page 2
- Type Code: L9
- Weight: 0.004 grams (approximate)



SOD-323		
Dim	Min	Max
A	2.30	2.70
B	1.60	1.80
C	1.20	1.40
D	1.05 Typical	
E	0.25	0.35
G	0.20	0.40
H	0.10	0.15
J	0.05 Typical	
α	0°	8°
All Dimensions in mm		

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	30	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Average Rectified Forward Current	I_O	100	mA
Forward Continuous Current (Note 1)	I_F	200	mA
Repetitive Peak Forward Current (Note 1)	I_{FRM}	300	mA
Forward Surge Current (Note 1)	I_{FSM}	600	mA
Power Dissipation (Note 1)	P_d	200	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	625	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +125	$^\circ\text{C}$

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	30	—	—	V	$I_{RS} = 100\mu\text{A}$
Forward Voltage (Note 2)	V_{FM}	—	—	240 320 400 500 1000	mV	$I_F = 0.1\text{mA}$ $I_F = 1\text{mA}$ $I_F = 10\text{mA}$ $I_F = 30\text{mA}$ $I_F = 100\text{mA}$
Reverse Leakage Current (Note 2)	I_{RM}	—	—	2.0	μA	$V_R = 25\text{V}$
Total Capacitance	C_T	—	—	10	pF	$V_R = 1.0\text{V}, f = 1.0\text{MHz}$
Reverse Recovery Time	t_{rr}	—	—	5.0	ns	$I_F = 10\text{mA}$ through $I_R = 10\text{mA}$ to $I_R = 1.0\text{mA}, R_L = 100\Omega$

- 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 test pulse used to minimize self-heating effect.
 3. No purposefully added lead.

Ordering Information (Note 4 and 5)

Device	Packaging	Shipping
BAT54WS-7	SOD-323	3000/Tape & Reel

- Notes: 4. For Packaging Details, go to our website at: <http://www.diodes.com/datasheets/ap02007.pdf>.
5. For Lead Free/RoHS Compliant version part number, please add "-F" suffix to the part number above. Example: BAT54WS-7-F.

Marking Information

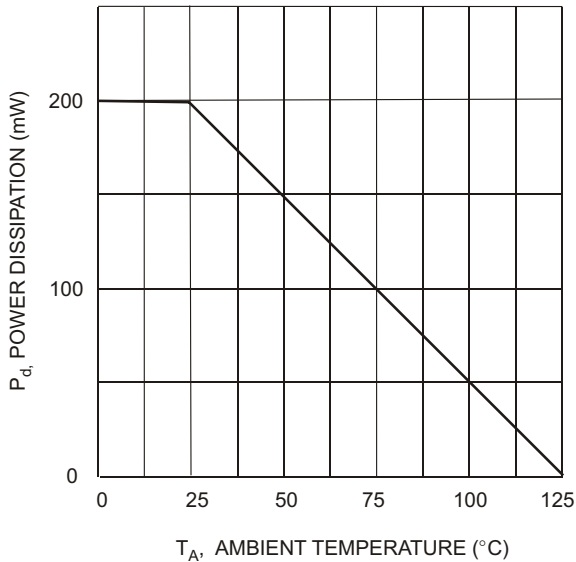
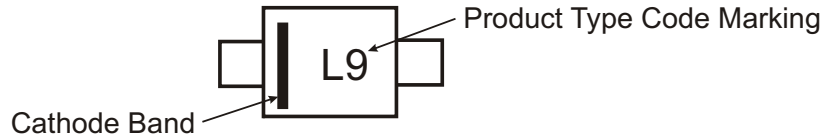


Fig. 1 Power Derating Curve

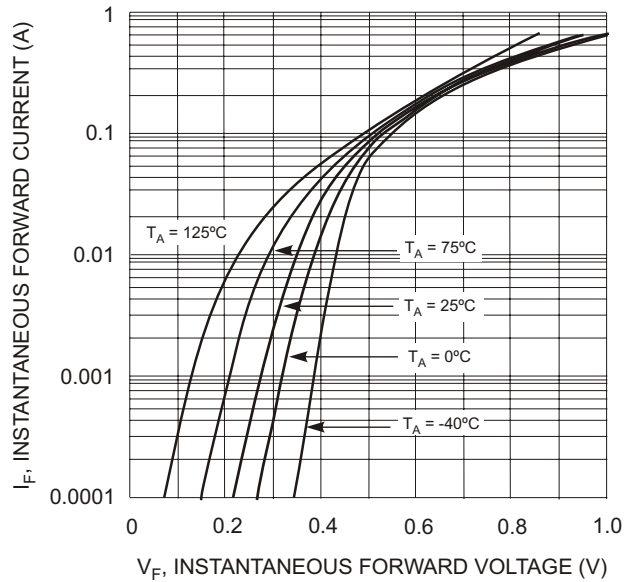


Fig. 2 Forward Characteristics

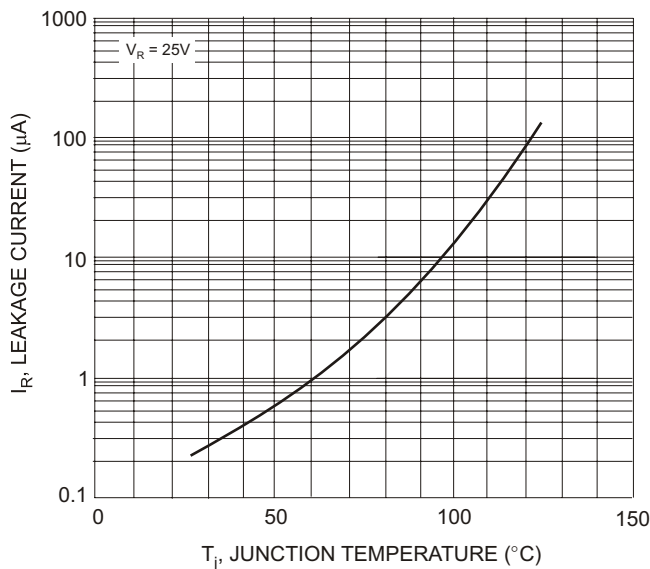


Fig. 3 Typical Reverse Characteristics

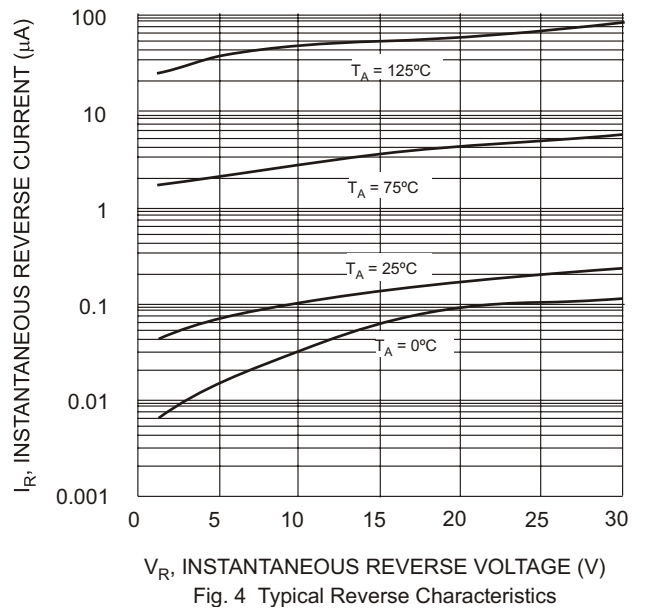


Fig. 4 Typical Reverse Characteristics

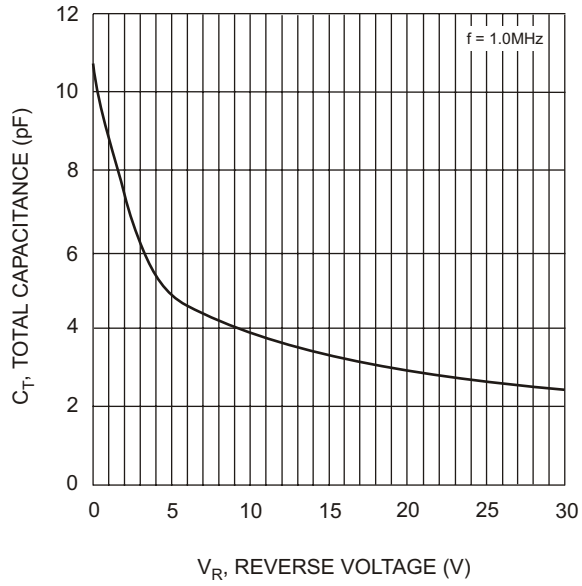


Fig. 5 Typical Capacitance vs. Reverse Voltage