

RoHS Compliant Product

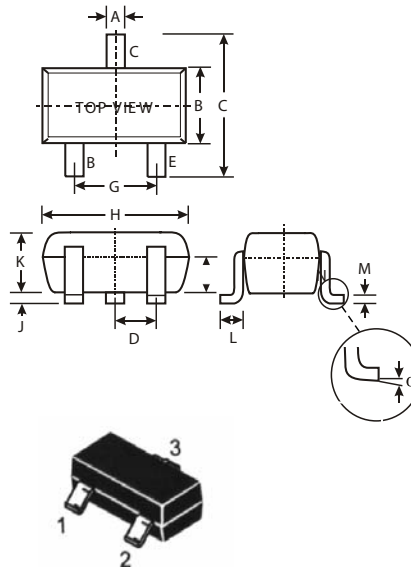
A suffix of "-C" specifies halogen & lead-free

FEATURES

- * Fast Switching Speed
- * For General Purpose Switching Applications
- * Ultra-Small Surface Mount Package
- * Also Available in Lead Free Version
- * High Conductance

MECHANICAL DATA

- * Case: SOT-523, Molded Plastic
- * Case material: UL Flammability Rating 94V-0
- * Moisture sensitivity: Level 1 per J-STD-020A
- * Terminals: Solderable per MIL-STD-202, Method 208
- * Polarity: See Diagrams Below
- * Weight: 0.002 grams (approx.)
- * Mounting Position: Any



SOT-523			
Dim	Min	Max	Typ
A	0.15	0.30	0.22
B	0.75	0.85	0.80
C	1.45	1.75	1.60
D	—	—	0.50
G	0.90	1.10	1.00
H	1.50	1.70	1.60
J	0.00	0.10	0.05
K	0.60	0.80	0.75
L	0.10	0.30	0.22
M	0.10	0.20	0.12
N	0.45	0.65	0.50
α	0°	8°	—
All Dimensions in mm			

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

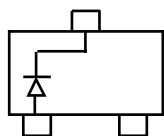
Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	85	V
RMS Reverse Voltage	$V_{R(RMS)}$	60	V
Forward Continuous Current (Note 2)	I_{FM}	155 75	mA
Repetitive Peak Forward Current	I_{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current	I_{FSM}	0.5	A
Power Dissipation (Note 2)	P_d	150	mW
Thermal Resistance Junction to Ambient (Note 2)	$R_{\theta JA}$	833	$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150	$^\circ\text{C}$

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

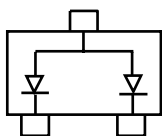
Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	85	—	V	$I_R = 100\mu\text{A}$
Forward Voltage (Note 1)	V_F	—	0.715 0.855 1.0 1.25	V	$I_F = 1.0\text{mA}$ $I_F = 10\text{mA}$ $I_F = 50\text{mA}$ $I_F = 150\text{mA}$
Leakage Current (Note 1)	I_R	—	2.0 100 60 30	μA μA μA nA	$V_R = 75\text{V}$ $V_R = 75\text{V}, T_j = 150^\circ\text{C}$ $V_R = 25\text{V}, T_j = 150^\circ\text{C}$ $V_R = 25\text{V}$
Typical Total Capacitance	C_T	—	1.5	pF	$V_R = 0, f = 1.0\text{MHz}$
Reverse Recovery Time	t_{rr}	—	4.0	ns	$I_F = I_R = 10\text{mA}$, $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$

- Notes:
1. Short duration test pulse to minimize self-heating effect.
 2. Device mounted on FR-4 PC board with recommended pad layout.

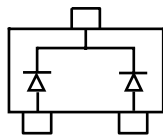
Marking



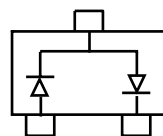
BAS16T Marking: A2



BAW56T Marking: JD



BAV70T Marking: JJ



BAV99T Marking: JE

Typical Characteristics

BAS16T/BAW56T/BAV70T/BAV99T

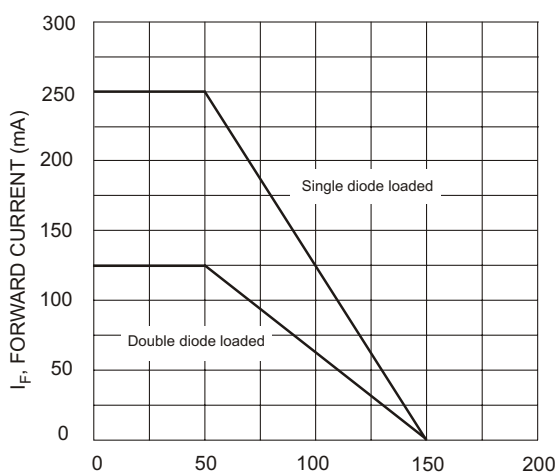


Fig. 1 Current Derating Curve

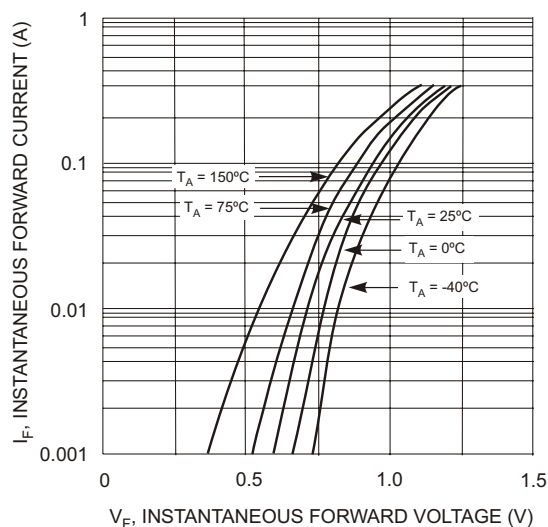


Fig. 2 Forward Characteristics

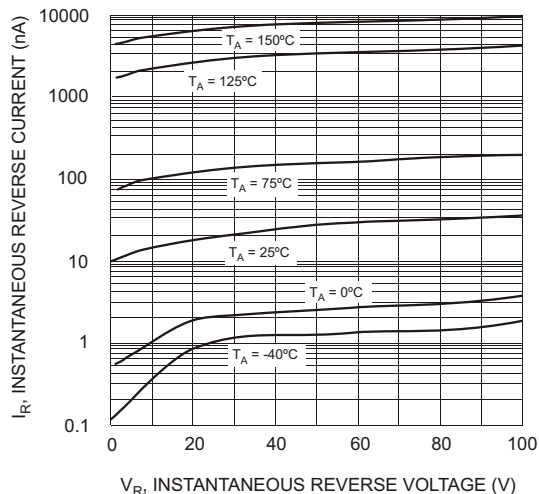


Fig. 3 Typical Reverse Characteristics

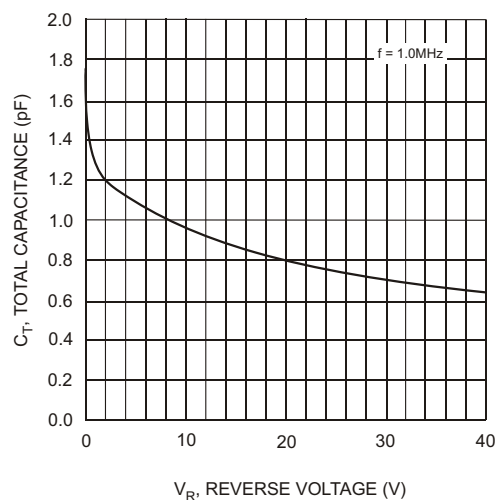


Fig. 4 Typical Capacitance vs. Reverse Voltage