

### Surface Mount Switching Diodes

 Lead(Pb)-Free

#### Features:

- \* Ultra-Small Surface Mount Package
- \* Fast switching Speed
- \* For General Purpose Switching Applications
- \* High Conductance

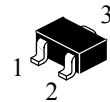
#### Mechanical Data:

- \* Terminals: Solderable per MIL-STD-202, Method 208
- \* Polarity: See Diagrams Page.2
- \* Marking: See Diagrams Page.2
- \* Weight: 0.002 grams (approx)

**SWITCHING DIODES**

**75 mAMPERES**

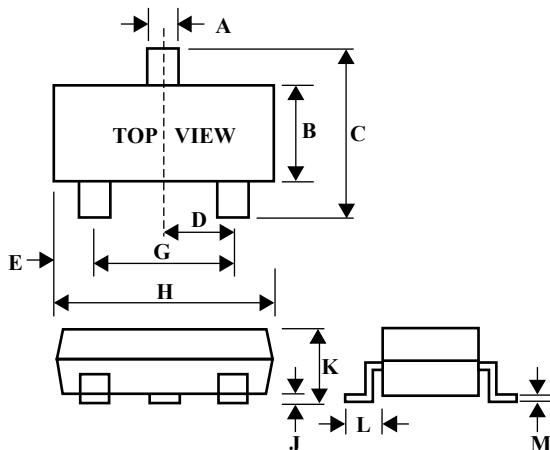
**85 VOLTS**



**SOT-523(SC-75)**

### SOT-523 Outline Dimensions (SC-75)

Unit:mm



| SC-75 |      |      |
|-------|------|------|
| Dim   | Min  | Max  |
| A     | 0.30 | 0.50 |
| B     | 0.70 | 0.90 |
| C     | 1.45 | 1.75 |
| D     | -    | 0.50 |
| E     | 0.15 | 0.40 |
| G     | 0.80 | 1.00 |
| H     | 1.40 | 1.80 |
| J     | 0.00 | 0.10 |
| K     | 0.70 | 1.00 |
| L     | 0.37 | 0.48 |
| M     | 0.10 | 0.25 |

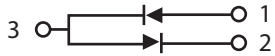
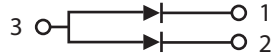
**Maximum Ratings** ( $T_A=25^{\circ}\text{C}$  Unless otherwise noted)

| Characteristic   | Symbol                          | Value        | Unit               |
|--|---------------------------------|--------------|--------------------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RRM}$<br>$V_R$ | 85           | V                  |
| Forward Continuous Current   | $I_O$                           | 75           | mA                 |
| Forward Power Dissipation  | $P_d$                           | 150          | mW                 |
| Junction temperature   | $T_j$                           | 150          | $^{\circ}\text{C}$ |
| Storage Temperature Range  | $T_{STG}$                       | -65 to + 150 | $^{\circ}\text{C}$ |

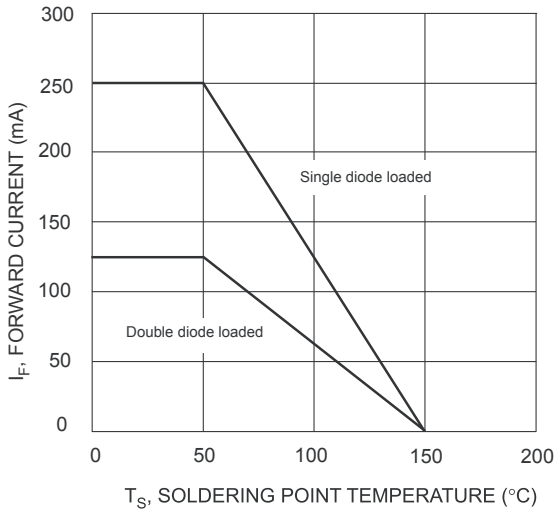
**Electrical Characteristics** ( $T_A=25^{\circ}\text{C}$  Unless otherwise noted)

| Characteristic  | Symbol      | Min | Max                        | Unit          |
|---|-------------|-----|----------------------------|---------------|
| Reverse Breakdown Voltage<br>$I_R=1\mu\text{A}$   | $V_{(BR)R}$ | 85  | -                          | V             |
| Forward Voltage<br>$I_F=1.0\text{mA}$<br>$I_F=10\text{mA}$<br>$I_F=50\text{mA}$<br>$I_F=150\text{mA}$ | $V_F$       | -   | 715<br>855<br>1000<br>1250 | mV            |
| Total Capacitance<br>$V_R=0\text{V}$ , $f=1.0\text{MHz}$  | $C_T$       | -   | 1.5                        | Pf            |
| Reverse Current<br>$V_R=75\text{V}$<br>$V_R=25\text{V}$   | $I_R$       | -   | 2.0<br>0.03                | $\mu\text{A}$ |
| Reverse Recover Time<br>$I_F=I_R=10\text{mA}$ , $I_{rr}=0.1 \times I_R$ , $R_L=100\Omega$             | $T_{rr}$    | -   | 4.0                        | nS            |

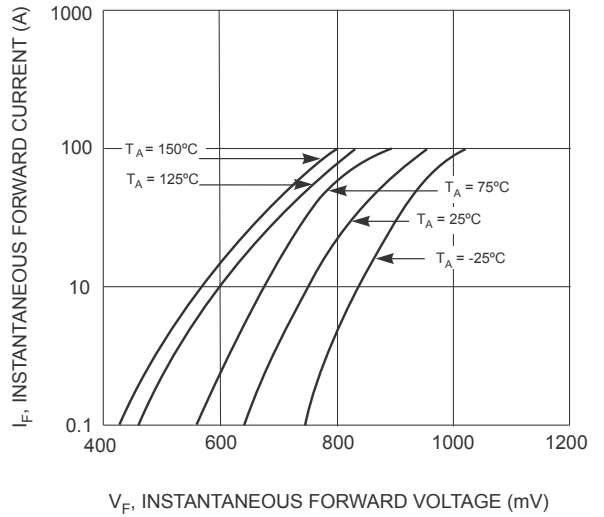
**Device Marking**

| Item   | Marking | Equivalent Circuit diagram  |
|--------|---------|---|
| BAV99T | JE      |  |
| BAW56T | JD      |  |

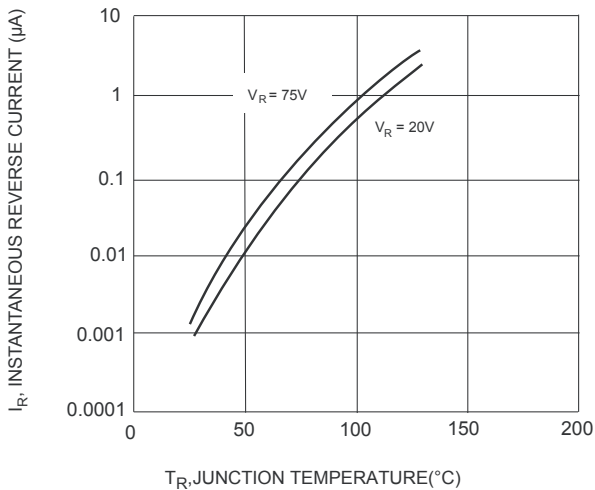
**Electrical Characteristic curves( $T_A=25^{\circ}\text{C}$ )**



$T_S$ , SOLDERING POINT TEMPERATURE ( $^{\circ}\text{C}$ )  
Fig. 1 Current Derating Curve



$V_{F1}$ , INSTANTANEOUS FORWARD VOLTAGE (mV)  
Fig. 2 Forward Characteristics



$T_R$ , JUNCTION TEMPERATURE ( $^{\circ}\text{C}$ )  
Fig. 3 Typical Reverse Characteristics