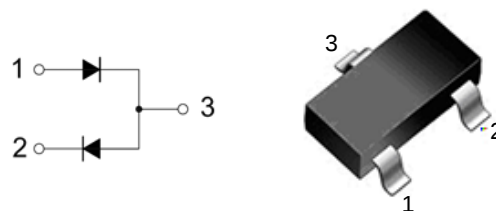


## SOT-23 Plastic-Encapsulate Diodes

### • Features

- Fast Switching Speed
- For General Purpose Switching Applications
- High Conductance



SOT - 23

### • MAXIMUM RATINGS (T<sub>C</sub>=25°C)

| Parameter                                          | Symbol                            | Limit    | Unit |
|----------------------------------------------------|-----------------------------------|----------|------|
| Reverse Voltage                                    | V <sub>R</sub>                    | 70       | V    |
| Forward Current                                    | I <sub>F</sub>                    | 200      | mA   |
| Non-Repetitive Peak Forward Surge Current @t=8.3ms | I <sub>FSM</sub>                  | 2.0      | A    |
| Power Dissipation                                  | P <sub>D</sub>                    | 225      | mW   |
| Thermal Resistance Junction to Ambient             | R <sub>θJA</sub>                  | 556      | °C/W |
| Thermal Resistance Junction to Case                | R <sub>θJC</sub>                  | 26       | °C/W |
| Operation Junction and Storage Temperature Range   | T <sub>J</sub> , T <sub>STG</sub> | -55~+150 | °C   |

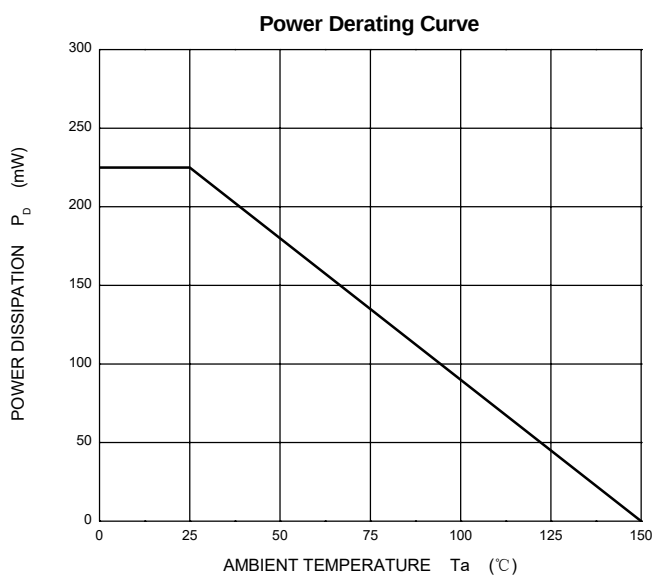
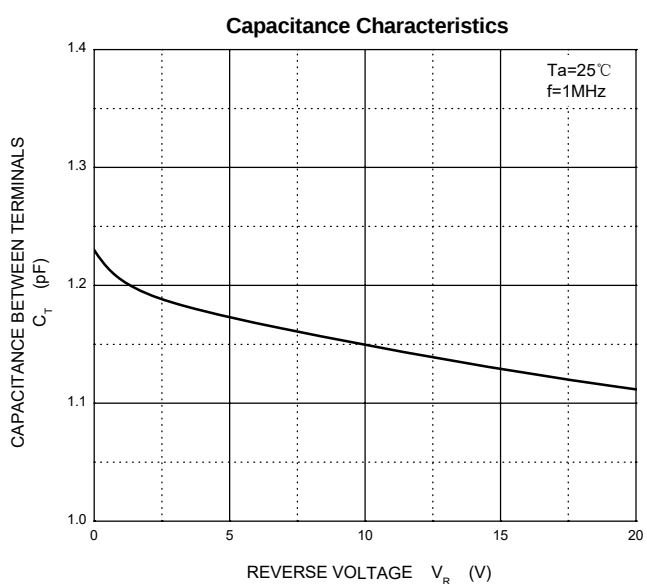
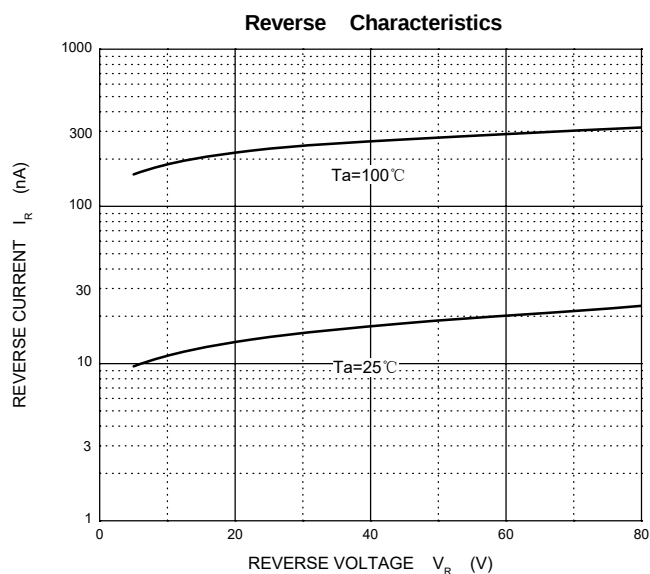
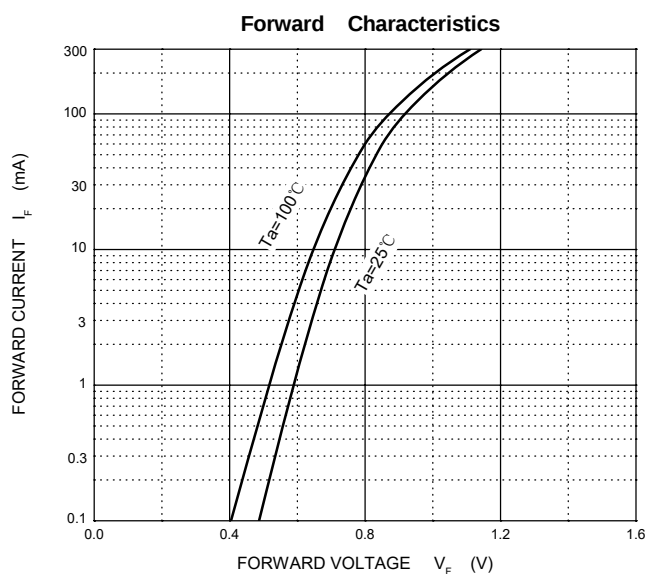
### • ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C)

| Parameter                     | Symbol          | Min | Typ | Max   | Unit | Conditions                                                                                                |
|-------------------------------|-----------------|-----|-----|-------|------|-----------------------------------------------------------------------------------------------------------|
| Reverse breakdown voltage     | V <sub>R</sub>  | 70  |     |       | V    | I <sub>R</sub> =100μA                                                                                     |
| Forward voltage               | V <sub>F1</sub> |     |     | 0.715 | V    | I <sub>F</sub> =1mA                                                                                       |
|                               | V <sub>F2</sub> |     |     | 0.855 | V    | I <sub>F</sub> =10mA                                                                                      |
|                               | V <sub>F3</sub> |     |     | 1     | V    | I <sub>F</sub> =50mA                                                                                      |
|                               | V <sub>F4</sub> |     |     | 1.25  | V    | I <sub>F</sub> =150mA                                                                                     |
| Reverse current               | I <sub>R</sub>  |     |     | 2.5   | μA   | V <sub>R</sub> =70V                                                                                       |
| Capacitance between terminals | C <sub>T</sub>  |     |     | 1.5   | pF   | V <sub>R</sub> =0, f=1MHz                                                                                 |
| Reverse recovery time         | t <sub>rr</sub> |     |     | 6     | ns   | I <sub>F</sub> = I <sub>R</sub> = 10mA,<br>I <sub>rr</sub> = 0.1 x I <sub>R</sub> , R <sub>L</sub> = 100Ω |

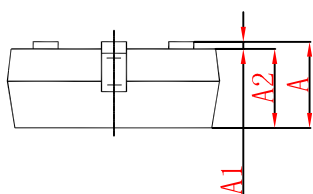
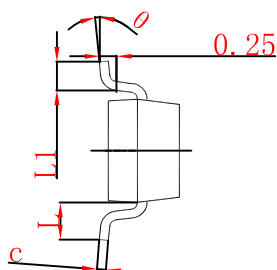
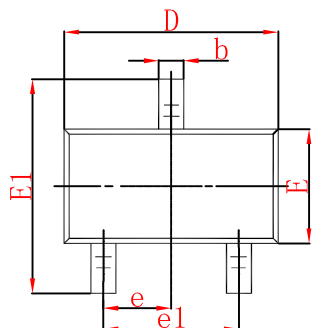
## • Ordering Information:

|                           |           |
|---------------------------|-----------|
| Part NO.                  | BAV99     |
| Marking                   | A7        |
| Packing Information       | REEL TAPE |
| Basic ordering unit (pcs) | 3000      |

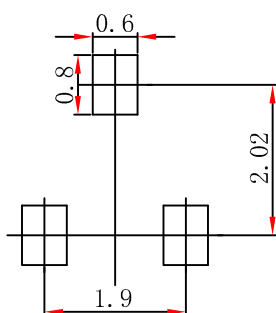
## • Typical Characteristics



## SOT-23 Package Outline Dimensions



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min                       | Max   | Min                  | Max   |
| A      | 0.900                     | 1.150 | 0.035                | 0.045 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 0.900                     | 1.050 | 0.035                | 0.041 |
| b      | 0.300                     | 0.500 | 0.012                | 0.020 |
| c      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 2.800                     | 3.000 | 0.110                | 0.118 |
| E      | 1.200                     | 1.400 | 0.047                | 0.055 |
| E1     | 2.250                     | 2.550 | 0.089                | 0.100 |
| e      | 0.950 TYP                 |       | 0.037 TYP            |       |
| e1     | 1.800                     | 2.000 | 0.071                | 0.079 |
| L      | 0.550 REF                 |       | 0.022 REF            |       |
| L1     | 0.300                     | 0.500 | 0.012                | 0.020 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |



### Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.