

## SOD-123 Plastic-Encapsulate Diodes

**BAV116W** Schottky barrier Diode

**SOD-123**

RoHS  
COMPLIANT

### Features

- Very low leakage current
- Medium speed switching times
- Silicon Epitaxial Planar Low Leakage Diode

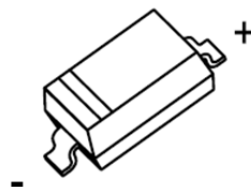
### Application

- For low leakage current applications

### Marking



ZX=Device code  
The marking bar indicates the cathode



### Equivalent circuit



### Maximum Ratings (T<sub>a</sub>=25°C unless otherwise noted)

| Parameter                                           | Symbol                            | Limit      | Unit |
|-----------------------------------------------------|-----------------------------------|------------|------|
| Peak Repetitive Reverse Voltage                     | V <sub>RRM</sub>                  | 130        | V    |
| Continuous Forward Current                          | I <sub>FM</sub>                   | 215        | mA   |
| Repetitive Peak Forward Current                     | I <sub>FRM</sub>                  | 500        | mA   |
| Non-repetitive Peak forward surge current @ t=1μs   | I <sub>FSM</sub>                  | 4          | A    |
| Non-repetitive Peak forward surge current @ t=1ms   |                                   | 1          | A    |
| Non-repetitive Peak forward surge current @ t=1s    |                                   | 0.5        | A    |
| Power dissipation                                   | P <sub>D</sub>                    | 250        | mW   |
| Thermal Resistance Junction to Ambient Air ( Note2) | R <sub>θJA</sub>                  | 500        | °C/W |
| Operating Junction and Storage Temperature Range    | T <sub>j</sub> , T <sub>stg</sub> | -65 ~ +150 | °C   |

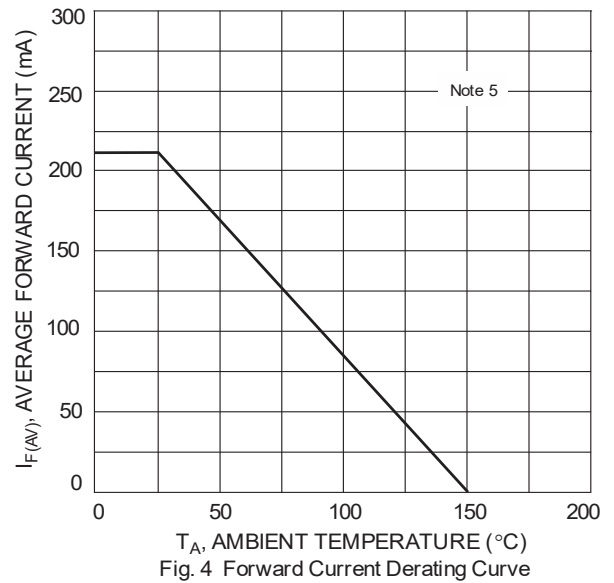
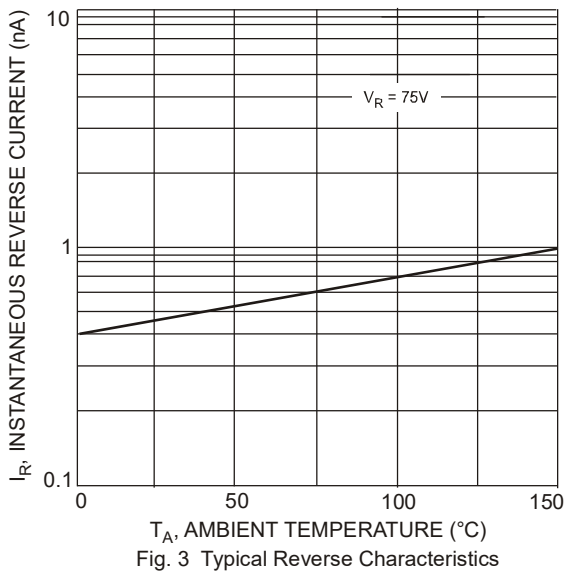
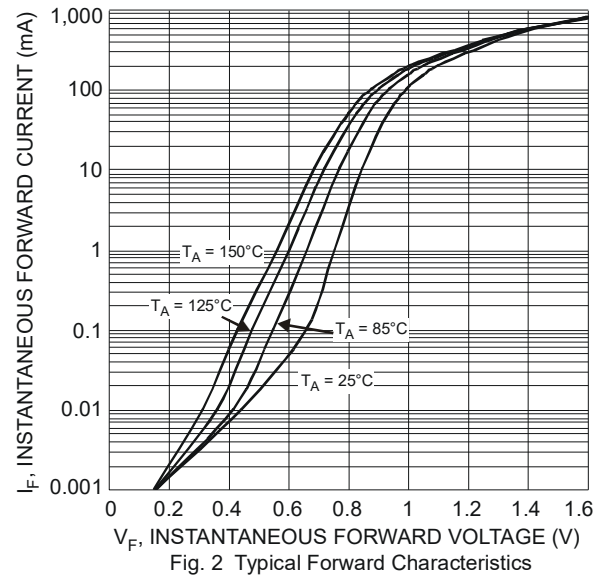
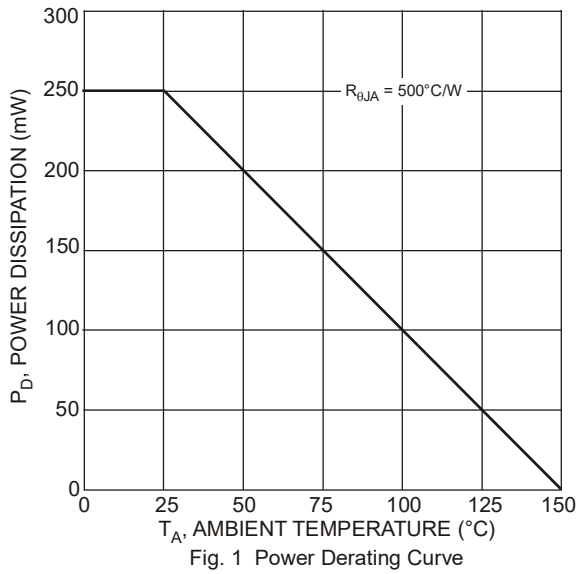
### Electrical Characteristics(T<sub>a</sub>=25°C unless otherwise specified)

| Parameter                | Symbol          | Test conditions                                                                                  | Min | Typ | Max  | Unit |
|--------------------------|-----------------|--------------------------------------------------------------------------------------------------|-----|-----|------|------|
| Reverse voltage          | V <sub>RM</sub> | I <sub>R</sub> =100μA ,T <sub>j</sub> = 25 °C                                                    | 130 |     |      | V    |
| Reverse current ( Note1) | I <sub>R</sub>  | V <sub>R</sub> =75V ,T <sub>j</sub> = 25 °C                                                      |     |     | 5    | nA   |
|                          | I <sub>R</sub>  | V <sub>R</sub> =75V ,T <sub>j</sub> =125 °C                                                      |     |     | 80   |      |
| Forward voltage          | V <sub>F</sub>  | I <sub>F</sub> =1.0mA ,T <sub>j</sub> = 25 °C                                                    |     |     | 0.9  | V    |
|                          |                 | I <sub>F</sub> =10mA ,T <sub>j</sub> = 25 °C                                                     |     |     | 1.0  |      |
|                          |                 | I <sub>F</sub> =50mA ,T <sub>j</sub> = 25 °C                                                     |     |     | 1.1  |      |
|                          |                 | I <sub>F</sub> =150mA ,T <sub>j</sub> = 25 °C                                                    |     |     | 1.25 |      |
|                          |                 | I <sub>F</sub> =10mA ,T <sub>j</sub> = 125 °C                                                    |     |     | 1.0  |      |
| Total capacitance        | C <sub>T</sub>  | V <sub>R</sub> =0V,f=1MHz                                                                        |     |     | 5    | pF   |
| Reverse recovery time    | t <sub>rr</sub> | I <sub>F</sub> =I <sub>R</sub> =10mA, I <sub>rr</sub> =0.1xI <sub>R</sub> , R <sub>L</sub> =100Q |     |     | 3    | μS   |

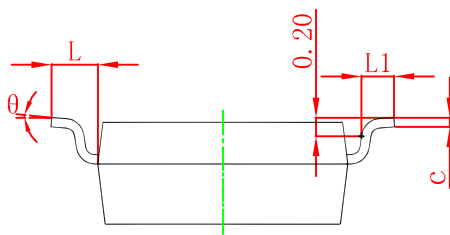
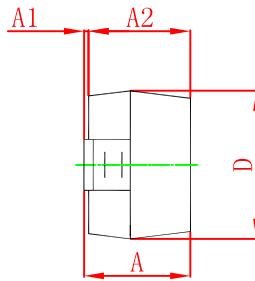
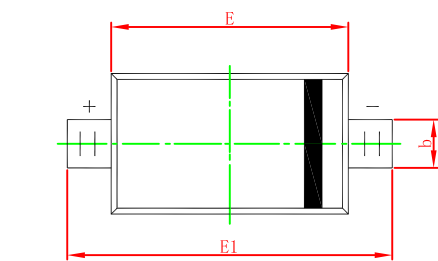
Notes: 1. Short duration pulse test used to minimize self-heating effect.

2. Part mounted on FR-4 board with recommended pad layout, which can be found on page 3 or our website at <http://www.diodes.com/datasheets/ap02001.pdf>.

## Typical Characteristics

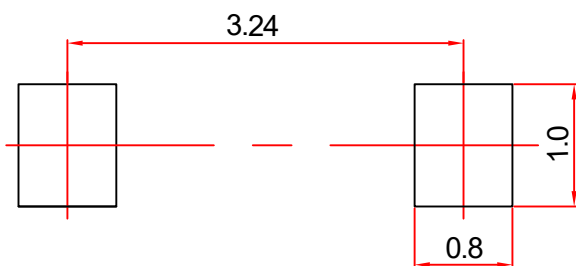


## SOD-123 Package Outline Dimensions



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min                       | Max   | Min                  | Max   |
| A      | 1.050                     | 1.250 | 0.041                | 0.049 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 1.050                     | 1.150 | 0.041                | 0.045 |
| b      | 0.450                     | 0.650 | 0.018                | 0.026 |
| c      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 1.500                     | 1.700 | 0.059                | 0.067 |
| E      | 2.600                     | 2.800 | 0.102                | 0.110 |
| E1     | 3.550                     | 3.850 | 0.140                | 0.152 |
| L      | 0.500 REF                 |       | 0.020 REF            |       |
| L1     | 0.250                     | 0.450 | 0.010                | 0.018 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |

## SOD-123 Suggested Pad Layout



Note:

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