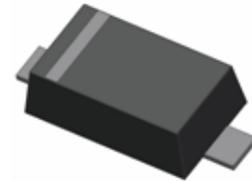


## 400mW SOD-123 SURFACE MOUNT Small Outline Flat Lead Plastic Package High Voltage & High Conductance Fast Switching Diode

Green Product

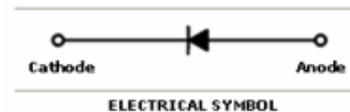


SOD-123 Flat Lead

### Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol      | Parameter                         | Value       | Units            |
|-------------|-----------------------------------|-------------|------------------|
| $P_D$       | Power Dissipation                 | 400         | mW               |
| $T_{STG}$   | Storage Temperature Range         | -65 to +150 | $^\circ\text{C}$ |
| $T_J$       | Operating Junction Temperature    | +150        | $^\circ\text{C}$ |
| $V_{RRM}$   | Repetitive Peak Reverse Voltage   | 250         | V                |
| $I_{F(AV)}$ | Average Rectified Forward Current | 200         | mA               |

These ratings are limiting values above which the serviceability of the diode may be impaired.

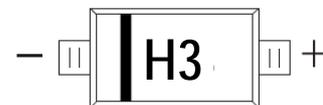


### Specification Features:

- Fast Switching Diode
- General Purpose Diodes High Voltage Application Diodes
- Flat Lead SOD-123 Small Outline Plastic Package
- Surface Device Type Mounting
- RoHS Compliant
- Green EMC
- Matte Tin(Sn) Lead Finish
- Band Indicates Cathode

### DEVICE MARKING CODE:

| Device Type | Device Marking |
|-------------|----------------|
| BAV19W      | H1             |
| BAV20W      | H2             |
| BAV21W      | H3             |

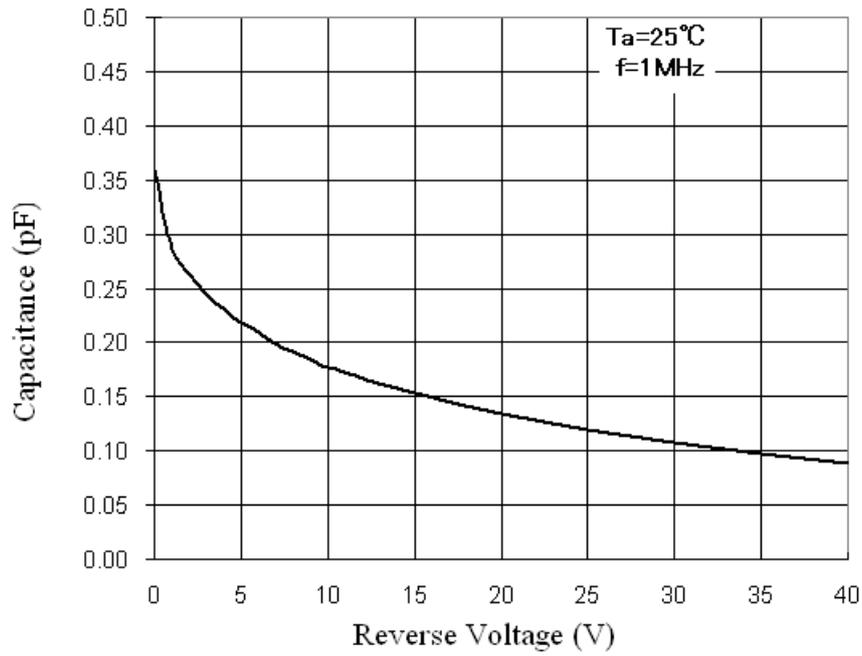


### Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

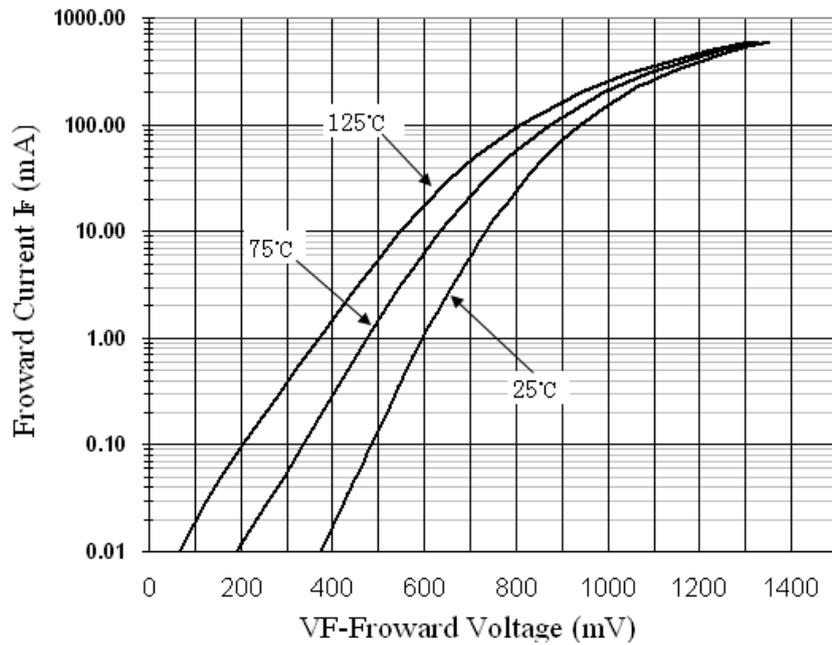
| Symbol   | Parameter               | Test Condition | Limits  |     | Unit |       |
|----------|-------------------------|----------------|---|-----|------|-------|
|          |                         |                | Min   | Max |      |       |
| $B_V$    | Breakdown Voltage       | BAV19W         | $I_R=100\mu\text{A}$  | 120 | ---  | Volts |
|          |                         | BAV20W         |   | 200 | ---  | Volts |
|          |                         | BAV21W         |   | 250 | ---  | Volts |
| $I_R$    | Reverse Leakage Current | BAV19W         | $V_R=100\text{V}$   | --- | 100  | nA    |
|          |                         | BAV20W         | $V_R=150\text{V}$   | --- | 100  | nA    |
|          |                         | BAV21W         | $V_R=200\text{V}$   | --- | 100  | nA    |
| $V_F$    | Forward Voltage         |                | $I_F=100\text{mA}$  | --- | 1.0  | Volts |
|          |                         |                | $I_F=200\text{mA}$  | --- | 1.25 | Volts |
| $T_{RR}$ | Reverse Recovery Time   |                | $I_F=I_R=30\text{mA}$<br>$R_L=100\Omega$<br>$I_{RR}=3\text{mA}$ | --- | 50   | nS    |
| $C$      | Capacitance             |                | $V_R=0\text{V}, f=1\text{MHz}$                                  | --- | 5.0  | pF    |

Typical Performance Characteristics

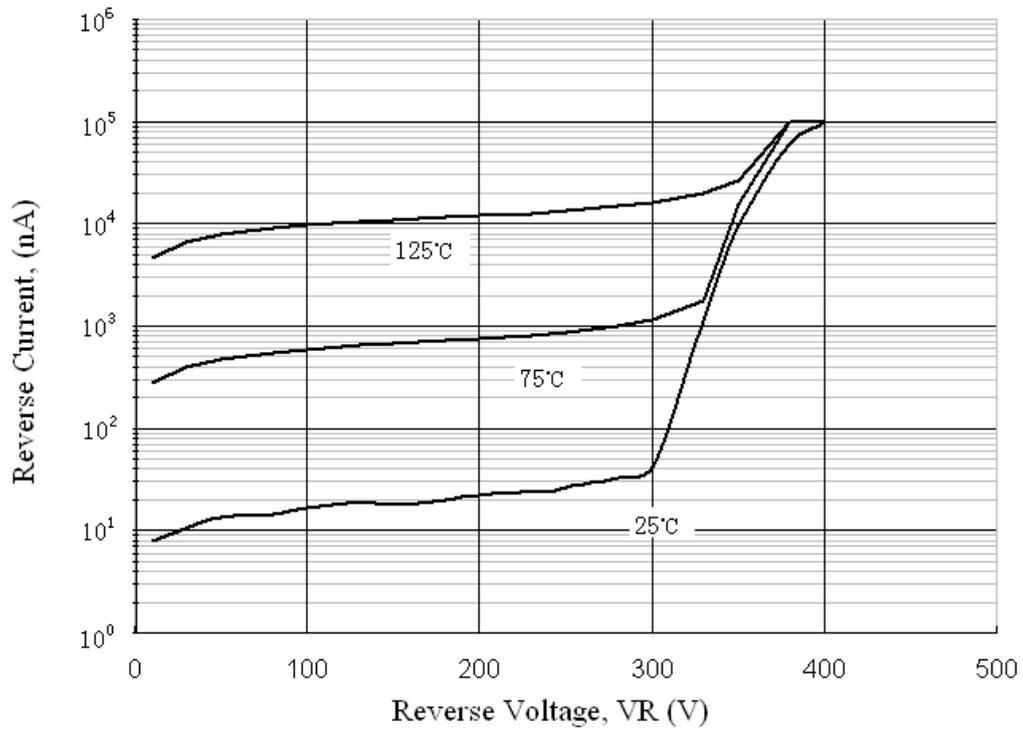
**Total Capacitance**



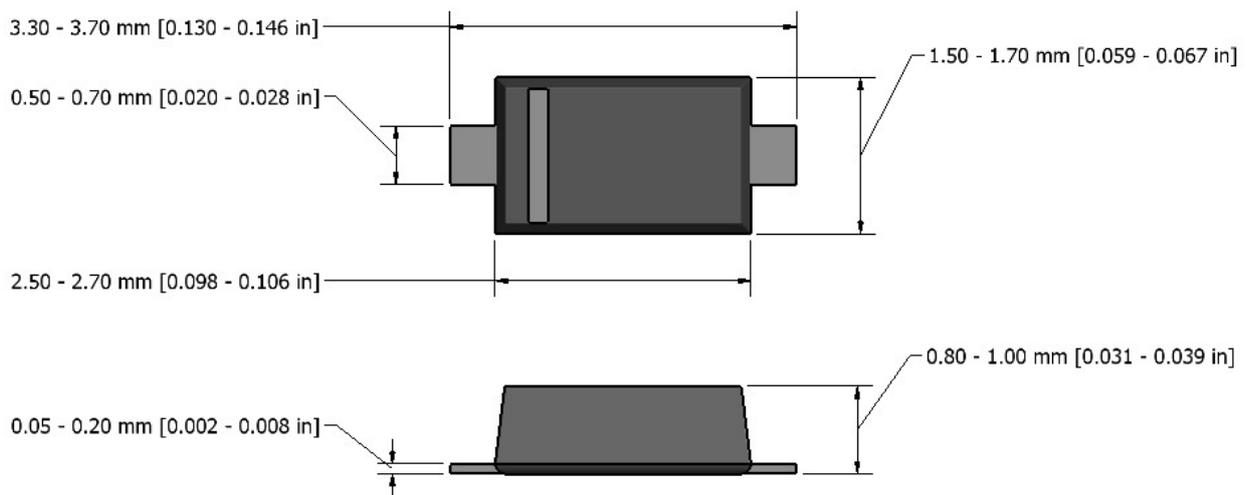
**Forward Voltage vs Ambient Temperature**



## Reverse Current vs Reverse Voltage



## Flat Lead SOD-123 Package Outline



**Note:** Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.



## NOTICE

The information presented in this document is for reference only. Tak Cheong reserves the right to make changes without notice for the specification of the products displayed herein.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Tak Cheong Semiconductor Co., Ltd., or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

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