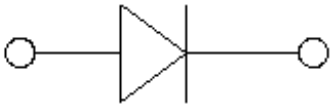
# Small-Signal Switching Diodes





## Features

- Moisture sensitivity level 1
- Reverse voltage: 100V
- Average forward current : 200mA

## Application

- Signal switching

## Mechanical data

- **Package**: SOD-123
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102

■ **Maximum Ratings** ($T_a$=25℃ Unless otherwise specified)

| Parameter | Symbol | Unit | Value |
|---|---|---|---|
| Device marking code | | | XX |
| Repetitive peak reverse voltage | $V_{RRM}$ | V | 85 |
| Forward current | $I_F$ | mA | 200 |
| Non-repetitive surge peak forward current @ t=8.3ms half-sine wave | $I_{FSM}$ | A | 1.5 |
| Non-repetitive surge peak forward current @ t=1μs square wave | | | 4 |
| Non-repetitive surge peak forward current @ t=1ms square wave | | | 2 |
| Power dissipation | $P_D$ | mW | 250 |
| Junction temperature | $T_J$ | ℃ | -55 to +150 |
| Storage temperature | $T_{STG}$ | ℃ | -55 to +150 |

## ■ Electrical Characteristics (Ta=25℃ Unless otherwise specified)

| Parameter | Symbol | Unit | Conditions | Min | Typ | Max |
|---|---|---|---|---|---|---|
| Reverse voltage | $V_R$ | V | $I_R$=100uA | 100 | | |
| Forward voltage | $V_{F1}$ | V | $I_F$=1mA | | | 0.9 |
| | $V_{F2}$ | V | $I_F$=10mA | | | 1.0 |
| | $V_{F3}$ | V | $I_F$=50mA | | | 1.1 |
| | $V_{F4}$ | V | $I_F$=150mA | | | 1.25 |
| Reverse leakage current | $I_R$ | nA | $V_R$=75V | | | 5 |
| Junction capacitance | Cj | pF | $V_R$=0V, f =1MH$_Z$ | | | 4 |
| Reverse recovery time | Trr | us | $I_F$=$I_R$=10mA, Irr=0.1*$I_R$, $R_L$=100Ω | | | 3 |
| Peak Forward Recovery Voltage | $V_{FR}$ | V | IF=10A, di/dt=40A/S, Ta=25℃ | | | 4 |

## ■ Thermal Characteristics

| Parameter | Symbol | Unit | Value |
|---|---|---|---|
| Thermal resistance, junction-to-ambient | $R_{\theta J-A}$(1) | ℃/W | 250 |
| Thermal resistance, junction-to-case | $R_{\theta J-C}$(1) | ℃/W | 200 |

Note:

（1）Thermal resistance from junction to ambient and from junction to case mounted on P.C.B. with 8mm*9mm copper pad areas

## ■Characteristics

**Fig 1：$P_D$-Ta Curve**

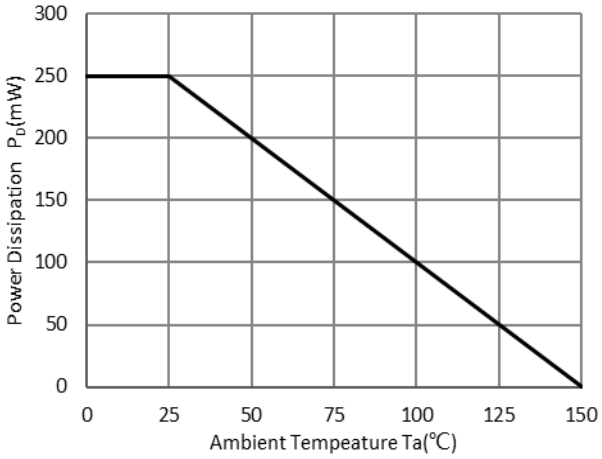



**Fig 2：Capacitance Capability**

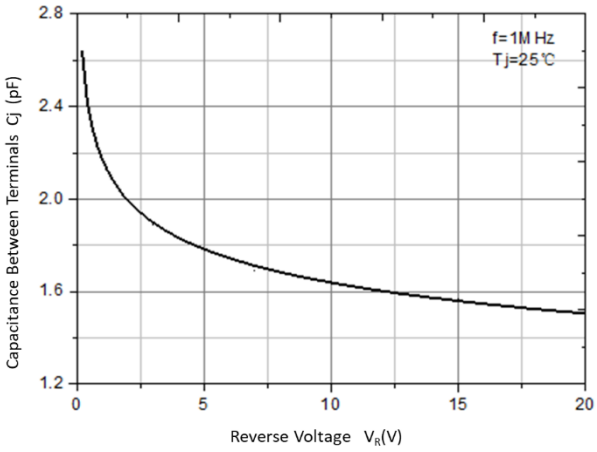



**Fig 3：Typical Forward Characteristics**

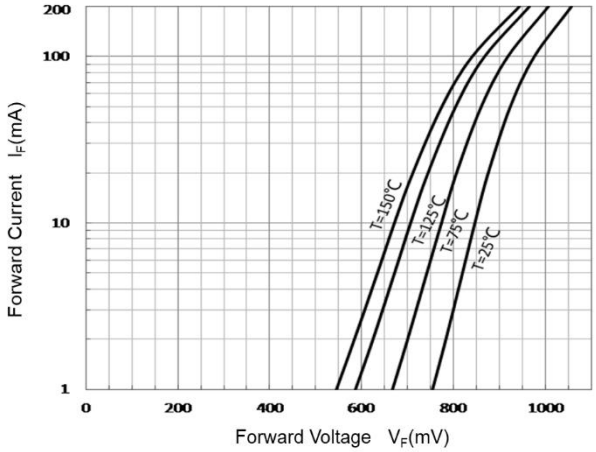
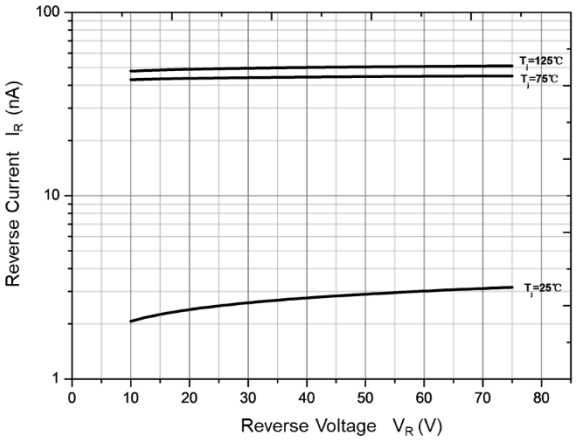


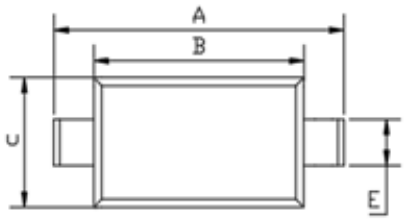

**Fig 4：Typical Reverse Characteristics**



## ■Ordering Information

| Preferred P/N | Packing code | Unit weight(g) | Minimum package(pcs) | Inner box quantity(pcs) | Outer carton quantity(pcs) | Delivery mode |
|---|---|---|---|---|---|---|
| BAV116W | F2 | Approximate 0.011 | 3000 | 30000 | 120000 | 7” reel |
| BAV116W | F3 | Approximate 0.011 | 10000 | / | 210000 | 13” reel |

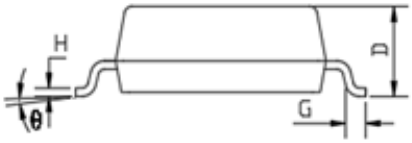
## ■ Outline Dimensions




TOP VIEW



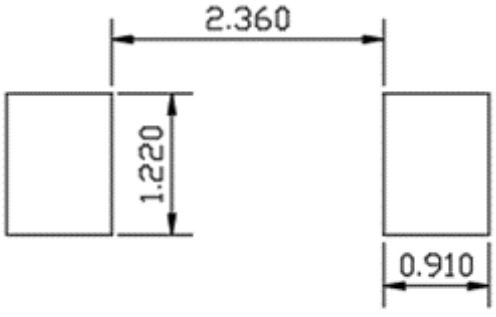

SIDE VIEW




SIDE VIEW

| DIMENSIONS | | | | |
|---|---|---|---|---|
| DIM | INCHES | | MM | |
| | MIN | MAX | MN | MAX |
| A | 0.140 | 0.152 | 3.550 | 3.850 |
| B | 0.100 | 0.112 | 2.550 | 2.850 |
| C | 0.055 | 0.071 | 1.400 | 1.800 |
| D | 0.037 | 0.053 | 0.950 | 1.350 |
| E | 0.020 | 0.028 | 0.510 | 0.710 |
| G | 0.006 | 0.018 | 0.150 | 0.450 |
| H | 0.003 | 0.010 | 0.080 | 0.250 |
| J | 0.000 | 0.006 | 0.000 | 0.150 |
| θ | 0 | 8° | 0 | 8° |

## ■ Suggested Pad Layout




UNIT: mm

Note:
1. All dimensions are in millimeters (mm) unless otherwise specified.
[所有尺寸均以毫米为单位，除非另有说明]
2. General tolerances: ±0.10mm unless otherwise specified.
[通用公差为±0.10mm，除非另有说明]
3. Dimensions and tolerances per ASME Y14.5M-2018.
[尺寸和公差遵循 ASME Y14.5M-2018 标准]
4.All dimensions shown are exclusive of burrs and gate residues.
Burrs and gate vestiges shall not exceed 0.15 mm in maximum.
[所有尺寸均不包括毛刺和浇口残留。毛刺与浇口残留的尺寸最大不得超过 0.15mm]
5.Dimension b does not include dambar protrusion of max 0.100 mm per side.
[尺寸b不包括单边最大0.100 MM的中筋凸出部分]
6.Dimensions B and C are the overall extreme outer dimensions of the mold compound. These dimensions exclude mold flash, lead flash, protrusions and burrs but include the maximum allowable mold mismatch.
[B和C是塑封体的外部极限尺寸，不包括包封溢料、内引线溢料、凸出部分以及胶体毛刺，但是包含了包封错位的最大尺寸]
7.Formed leads shall be planar with respect to one another within a maximum of 0.076 mm relative to the seating plane.
[成型的管脚应为同一平面，共面性最大为0.1mm]
8. ★It is the key size.
[★ 标记为关键尺寸]

## Notice

All products, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise. Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in STARSEA's terms and conditions of sale for such products, STARSEA assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of STARSEA products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.