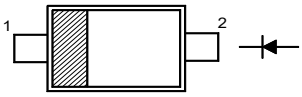
## Silicon Epitaxial Planar Switching Diodes

High Voltage Switching Diode

PINNING

| PIN | DESCRIPTION |
|---|---|
| 1 | Cathode |
| 2 | Anode |




Top View
Simplified outline SOD-123 and symbol

### Features

- AEC-Q101 Qualified
- Fast switching speed
- Surface mount package ideally suited for automatic insertion
- Halogen and Antimony Free(HAF), RoHS compliant

### Absolute Maximum Ratings ($T_a$ = 25℃)

| Parameter | | Symbol | Value | Unit |
|---|---|---|---|---|
| Repetitive Peak Reverse Voltage | ABAV19XW<br>ABAV20XW<br>ABAV21XW | $V_{RRM}$ | 120<br>200<br>250 | V |
| Reverse Voltage | ABAV19XW<br>ABAV20XW<br>ABAV21XW | $V_R$ | 100<br>150<br>200 | V |
| Average Rectified Forward Current | | $I_{F(AV)}$ | 200 | mA |
| Forward Continuous Current | | $I_{FM}$ | 400 | mA |
| Repetitive Peak Forward Current | | $I_{FRM}$ | 625 | mA |
| Non-repetitive Peak Forward Surge Current | at t = 1 ms<br>at t = 1 s | $I_{FSM}$ | 2.5<br>0.5 | A |
| Power Dissipation [1)] | | $P_D$ | 250 | mW |
| Operating Junction Temperature Range | | $T_j$ | - 55 to + 150 | ℃ |
| Storage Temperature Range | | $T_{stg}$ | - 55 to + 150 | ℃ |

### Thermal Characteristics

| Parameter | Symbol | Max. | Unit |
|---|---|---|---|
| Thermal Resistance from Junction to Ambient [1)] | $R_{\theta JA}$ | 500 | ℃/W |

[1)] Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

**Characteristics at $T_a$ = 25℃**

| Parameter | | Symbol | Min. | Max. | Unit |
|---|---|---|---|---|---|
| Forward Voltage<br>at $I_F$ = 100 mA<br>at $I_F$ = 200 mA | | $V_F$ | -<br>- | 1<br>1.25 | V |
| Reverse Breakdown Voltage<br>at $I_R$ = 100 μA | ABAV19XW<br>ABAV20XW<br>ABAV21XW | $V_{(BR)R}$ | 120<br>200<br>250 | -<br>-<br>- | V |
| Reverse Current<br>at $V_R$ = 100 V<br>at $V_R$ = 150 V<br>at $V_R$ = 200 V | <br>ABAV19XW<br>ABAV20XW<br>ABAV21XW | $I_R$ | <br>-<br>-<br>- | <br>100<br>100<br>100 | nA |
| Total Capacitance<br>at $V_R$ = 0 , f = 1 MHz | | $C_T$ | - | 5 | pF |
| Reverse Recovery Time<br>at $I_F$ = $I_R$ = 30 mA, $I_{rr}$ = 0.1 X $I_R$, $R_L$ = 100 Ω | | $t_{rr}$ | - | 50 | ns |

## Electrical Characteristic Curve

Fig 1. Power Derating Curve

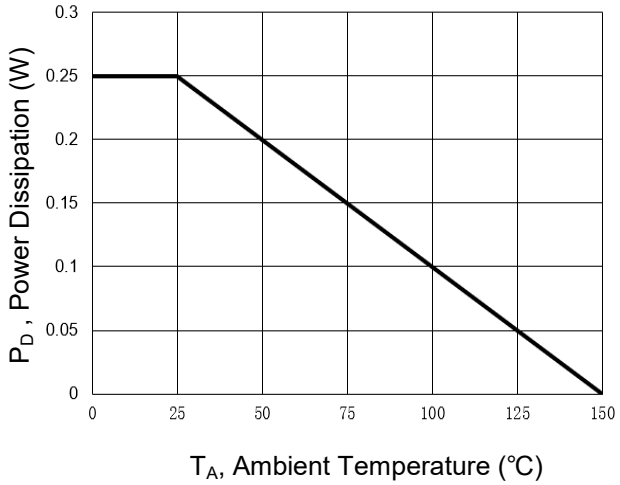



Fig 2. Forward Characteristic Curve

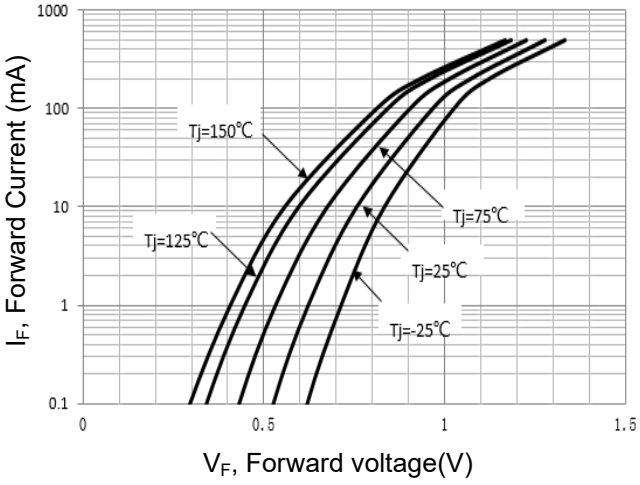



Fig 3. Total Capacitance Curve

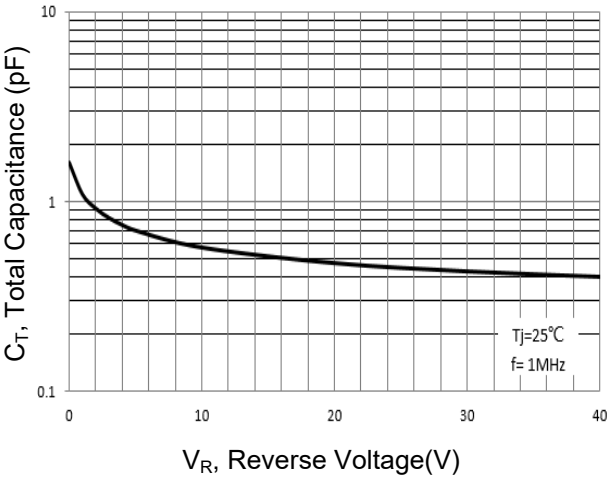
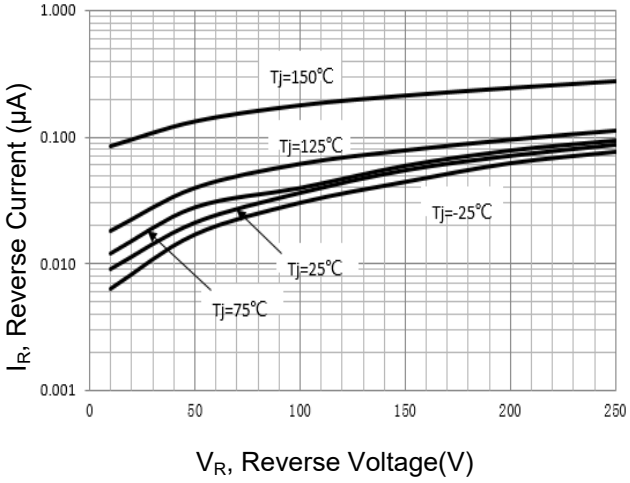
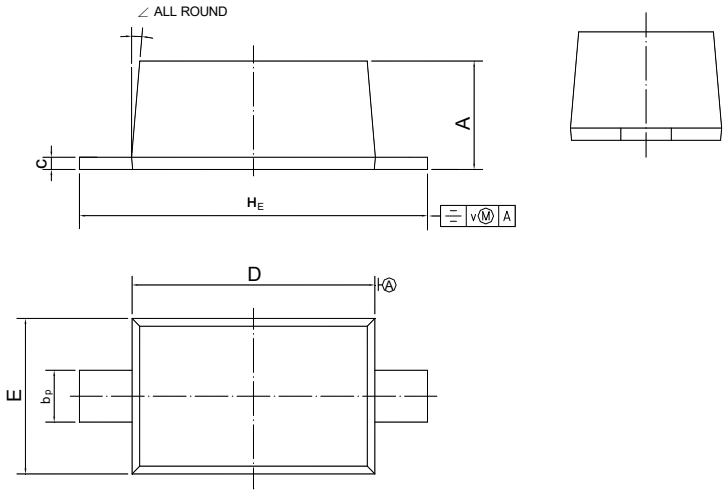



Fig 4. Reverse Characteristic Curve

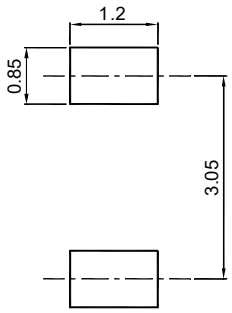


## PACKAGE OUTLINE
**Plastic surface mounted package** **SOD-123**




| UNIT | A | $b_p$ | c | D | E | $H_E$ | v | ∠ |
|---|---|---|---|---|---|---|---|---|
| mm | 1.15<br>1.05 | 0.6<br>0.5 | 0.135<br>0.100 | 2.7<br>2.6 | 1.65<br>1.55 | 3.85<br>3.55 | 0.2 | 5° |

### Recommended Soldering Footprint

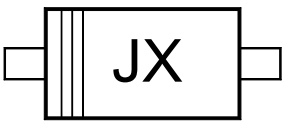



### Packing information

| Package | Tape Width (mm) | Pitch | | Reel Size | | Per Reel Packing Quantity |
|---|---|---|---|---|---|---|
| | | mm | (inch) | mm | (inch) | |
| SOD-123 | 8 | 4 ± 0.1 | 0.157 ± 0.004 | 178 | 7 | 3,000 |

### Marking information

" JX " = Part No.
" III " = Cathode line
Font type: Arial




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