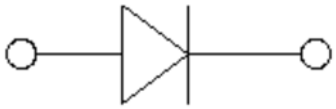
STAR SEA

# SD103AWS THRU SD103CWS

RoHS COMPLIANT

## Small Signal Schottky Diode





### Features

- Moisture sensitivity level 1
- Reverse voltage: 40V/30V/20V
- Average forward current : 350mA

### Application

- High frequency and low voltage rectifier

### Mechanical data

- **Package**: SOD-323
- **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 | | | SD103AWS | S4 |
| | | | SD103BWS | S5 |
| | | | SD103CWS | S6 |
| Forward current | $I_F$ | mA | 350 | |
| Non-repetitive surge peak forward current @ t=8.3ms half-sine wave | $I_{FSM}$ | A | 1.5 | |
| Non-repetitive surge peak forward current @ t=1ms square wave | | | 5 | |
| Repetitive Peak Forward Current@ tp=1ms, δ=0.25 | $I_{FRM}$ | A | 1 | |
| Power dissipation | $P_D$ | mW | 200 | |
| Junction temperature | $T_J$ | ℃ | -55 to +125 | |
| 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 | SD103AWS | $I_R$=100uA | 40 | | |
| | | | SD103BWS | | 30 | | |
| | | | SD103CWS | | 20 | | |
| Forward voltage | $V_{F1}$ | V | $I_F$=20mA | | | | 0.37 |
| | $V_{F2}$ | V | $I_F$=200mA | | | | 0.60 |
| Reverse leakage current | $I_R$ | uA | SD103AWS | $V_R$=30V | | | 5 |
| | | | SD103BWS | $V_R$=20V | | | 5 |
| | | | SD103CWS | $V_R$=10V | | | 5 |
| Junction capacitance | Cj | pF | $V_R$=0V, f =1MHZ | | | | 50 |
| Reverse recovery time | Trr | ns | IF=IR=200mA, Irr=0.1*IR,$R_L$=100Ω | | | | 10 |

## ■ Thermal Characteristics

| Parameter | Symbol | Unit | Value |
|---|---|---|---|
| Thermal resistance, junction-to-ambient | RθJ-A(1) | ℃/W | 500 |
| Thermal resistance, junction-to-case | RθJ-C(1) | ℃/W | 400 |

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**

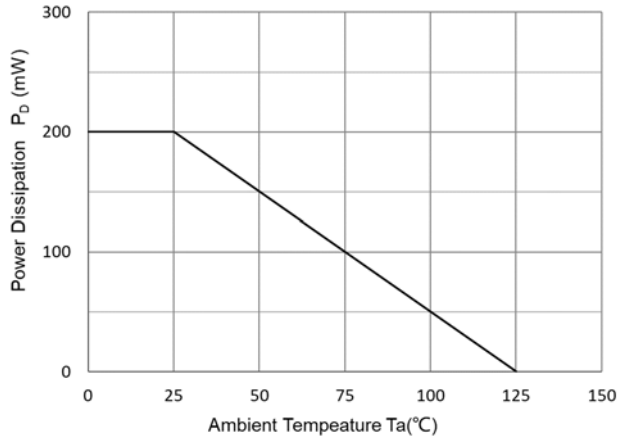



**Fig 2：Capacitance Capability**




**Fig 3：Typical Forward Characteristics**

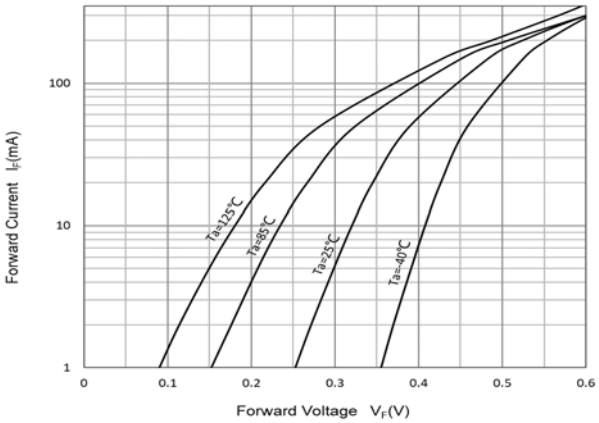
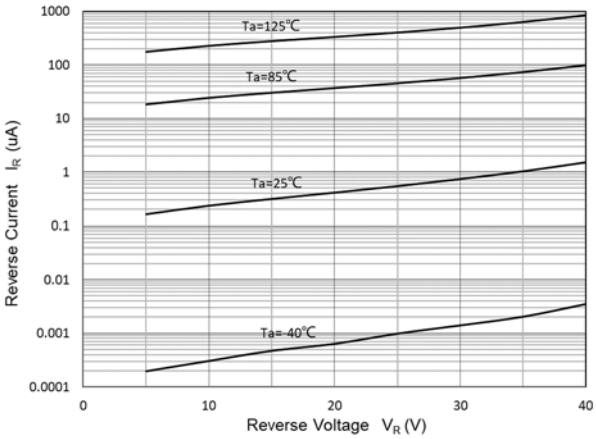


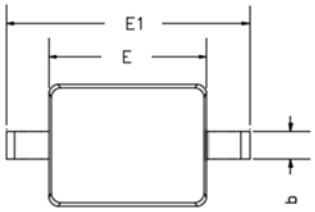

**Fig 4：Typical Reverse Characteristics**



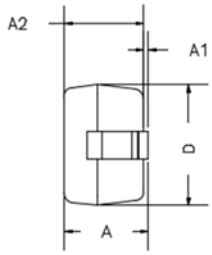
## ■Ordering Information

| Preferred P/N | Packing code | Unit weight(g) | Minimum package(pcs) | Inner box quantity(pcs) | Outer carton quantity(pcs) | Delivery mode |
|---|---|---|---|---|---|---|
| SD103AWS THRU SD103CWS | F2 | Approximate 0.0048 | 3000 | 30000 | 120000 | 7” reel |
| SD103AWS THRU SD103CWS | F3 | Approximate 0.0048 | 10000 | / | 210000 | 13” reel |

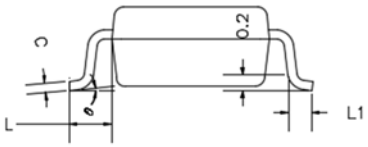
## ■ Outline Dimensions




TOP VIEW



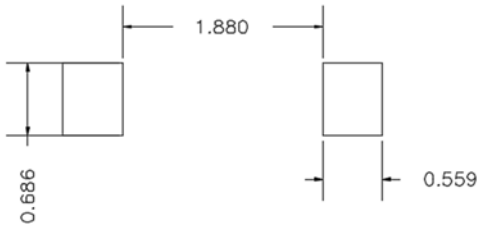

SIDE VIEW




SIDE VIEW

| DIMENSIONS | | | | |
|---|---|---|---|---|
| DIM | INCHES | | MM | |
| | MIN | MAX | MN | MAX |
| A | --- | 0.0393 | --- | 1.0000 |
| A1 | 0.0000 | 0.0039 | 0.0000 | 0.1000 |
| A2 | 0.0314 | 0.0354 | 0.8000 | 0.9000 |
| b | 0.0098 | 0.0157 | 0.2500 | 0.4000 |
| c | 0.0031 | 0.0059 | 0.0800 | 0.1500 |
| D | 0.0472 | 0.0551 | 1.2000 | 1.4000 |
| E | 0.0629 | 0.0709 | 1.6000 | 1.8000 |
| E1 | 0.0984 | 0.1063 | 2.5000 | 2.7000 |
| L | 0.0187TYP | | 0.475TYP | |
| L1 | 0.0098 | 0.0157 | 0.250 | 0.400 |
| 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 D and E 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.
[D和E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]

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