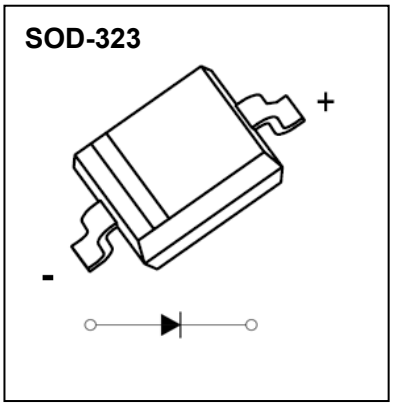
JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

# SOD-323 Plastic-Encapsulate Diodes

## B2020WS SCHOTTKY BARRIER DIODE



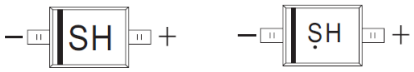

### FEATURES

- Low Forward Voltage Drop
- Very Small SMD Package

### APPLICATIONS

- Low Voltage Rectification
- High Efficiency DC/DC Conversion
- Switch Mode Power Supply
- Inverse Polarity Protection
- Low Power Consumption Applications

### MARKING: SH




The marking bar indicates the cathode
Solid dot = Green molding compound device,if none, the normal device.

### MAXIMUM RATINGS ( $T_a$=25℃ unless otherwise noted )

| Symbol | Parameter | | Value | Unit |
|---|---|---|---|---|
| $V_{RRM}$ | Peak Repetitive Reverse Voltage | | 20 | V |
| $V_{RWM}$ | Working Peak Reverse Voltage | | | |
| $V_{R(RMS)}$ | RMS Reverse Voltage | | 14 | V |
| $I_F$ | Continuous Forward Current | | 2 | A |
| $I_{FSM}$ | Non-repetitive Peak Forward Surge Current @ t=8.3ms | | 9 | A |
| $P_D$ | Power Dissipation | Note1 | 250 | mW |
| | | Note2 | 480 | |
| $R_{\Theta JA}$ | Thermal Resistance from Junction to Ambient | Note1 | 400 | ℃/W |
| | | Note2 | 208 | |
| $T_j$ | Junction Temperature | | 125 | ℃ |
| $T_{stg}$ | Storage Temperature | | -55~+150 | ℃ |

1:Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.

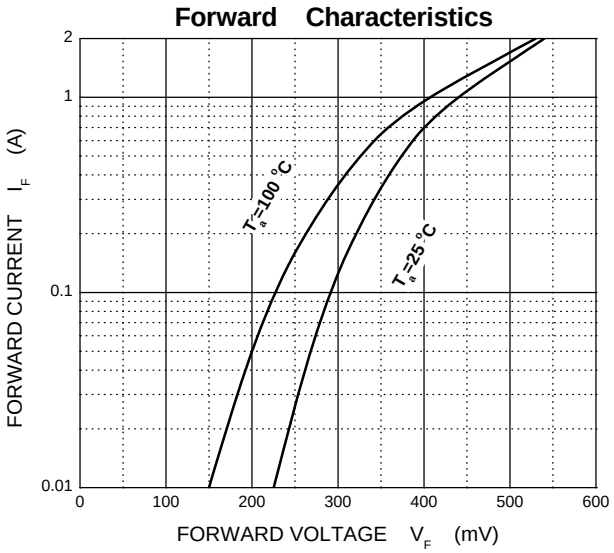
2.Device mounted on an FR4 PCB with copper pad 10 x 10 mm.

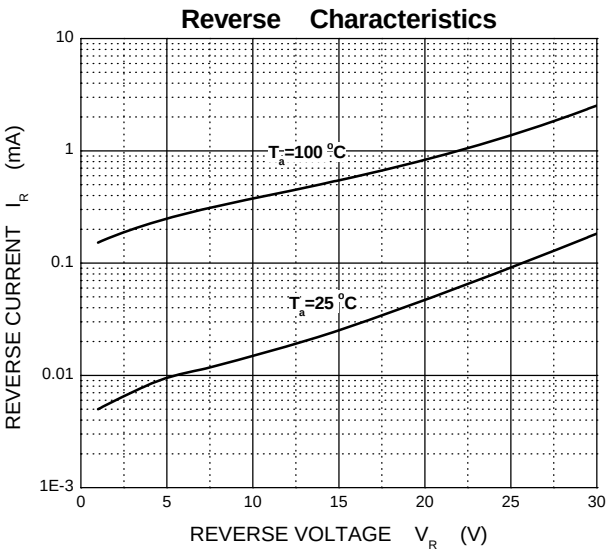
### ELECTRICAL CHARACTERISTICS($T_a$=25℃ unless otherwise specified)

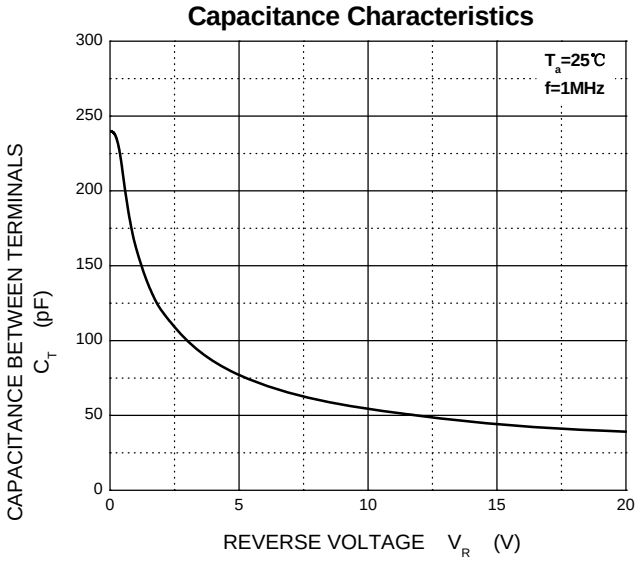
| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Reverse breakdown voltage** | $V_{(BR)}$ | $I_R$=1mA | 20 | | | V |
| **Reverse current** | $I_R$ | $V_R$=10V | | | 80 | μA |
| | | $V_R$=20V | | | 100 | |
| **Forward voltage** | $V_F$* | $I_F$=1A | | | 0.45 | V |
| | | $I_F$=2A | | | 0.55 | |
| **Total capacitance** | $C_{tot}$ | $V_R$=4V,f=1MHz | | | 120 | pF |

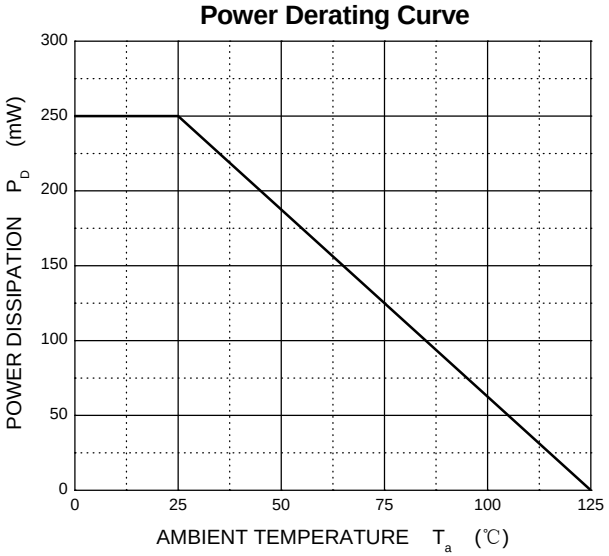
*Pulse test: tp ≤ 300 μs; δ ≤ 0.02.

## Typical Characteristics

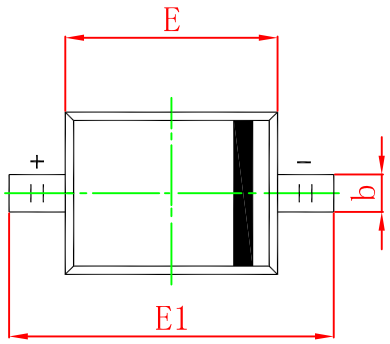


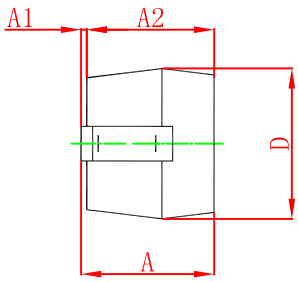



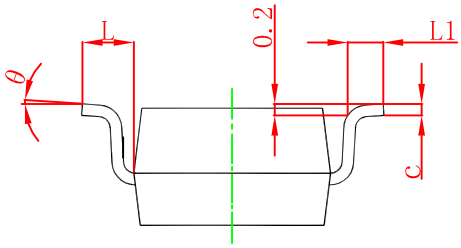



## SOD-323 Package Outline Dimensions

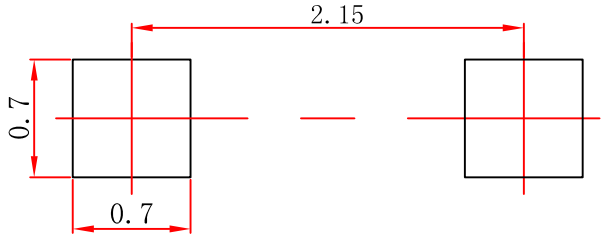



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| A | | 1.000 | | 0.039 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.800 | 0.900 | 0.031 | 0.035 |
| b | 0.250 | 0.350 | 0.010 | 0.014 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 1.200 | 1.400 | 0.047 | 0.055 |
| E | 1.600 | 1.800 | 0.063 | 0.071 |
| E1 | 2.550 | 2.750 | 0.100 | 0.108 |
| L | 0.475 REF. | | 0.019 REF. | |
| L1 | 0.250 | 0.400 | 0.010 | 0.016 |
| θ | 0° | 8° | 0° | 8° |

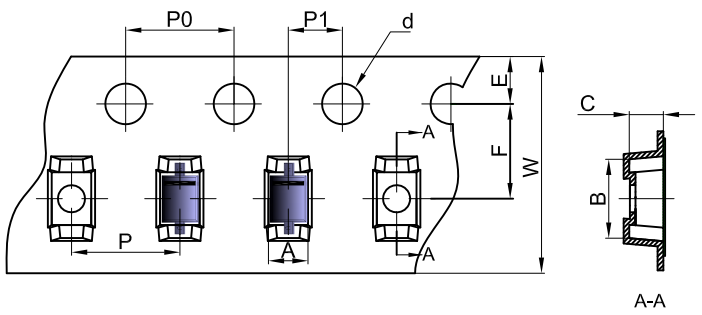
## SOD-323 Suggested Pad Layout




**Note:**
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

# SOD-323 Tape and Reel

## SOD-323 Embossed Carrier Tape

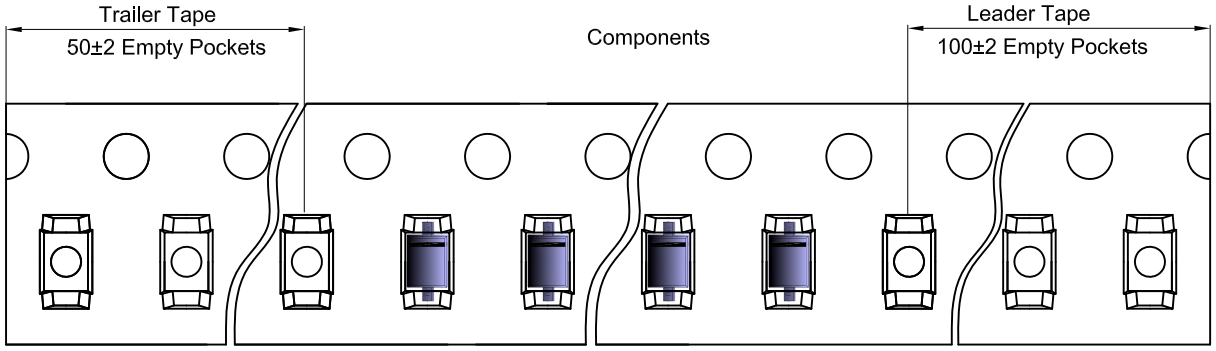



Packaging Description:

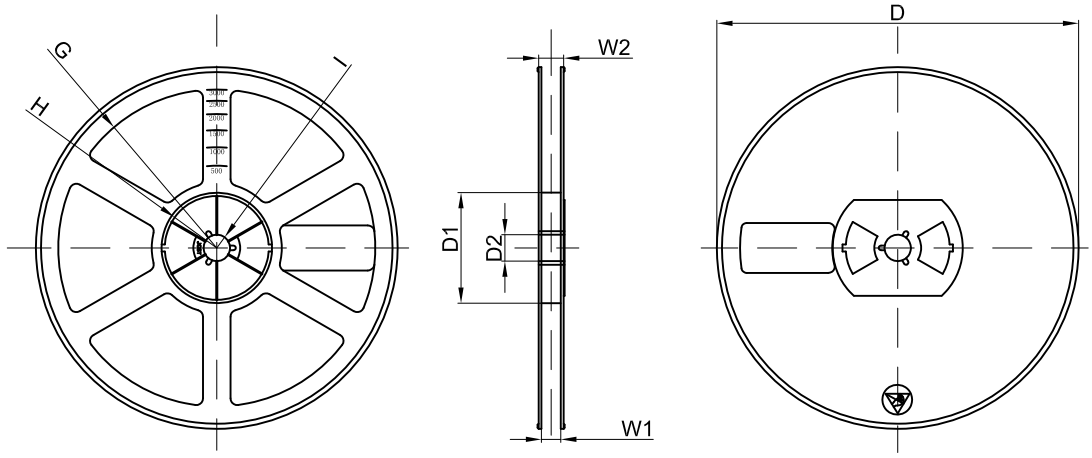
SOD-323 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

| Dimensions are in millimeter | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Pkg type | A | B | C | d | E | F | P0 | P | P1 | W |
| SOD-323 | 1.48 | 3.3 | 1.25 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |

## SOD-323 Tape Leader and Trailer




## SOD-323 Reel




| Dimensions are in millimeter | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Reel Option | D | D1 | D2 | G | H | I | W1 | W2 |
| 7"Dia | Ø178.00 | 54.40 | 13.00 | R78.00 | R25.60 | R6.50 | 9.50 | 12.30 |

| REEL | Reel Size | Box | Box Size(mm) | Carton | Carton Size(mm) | G.W.(kg) |
|---|---|---|---|---|---|---|
| 3000 pcs | 7 inch | 45,000 pcs | 203×203×195 | 180,000 pcs | 438×438×220 | |