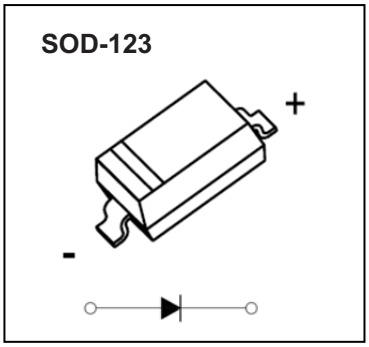
SZCJ

Shenzhen Changji Semiconductor Co., LTD.

# SOD-123 Plastic-Encapsulate Diodes

## B0530W

SCHOTTKY BARRIER DIODE




### FEATURES

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- High Conductance
- Also Available in Lead Free Version

### MARKING:SE



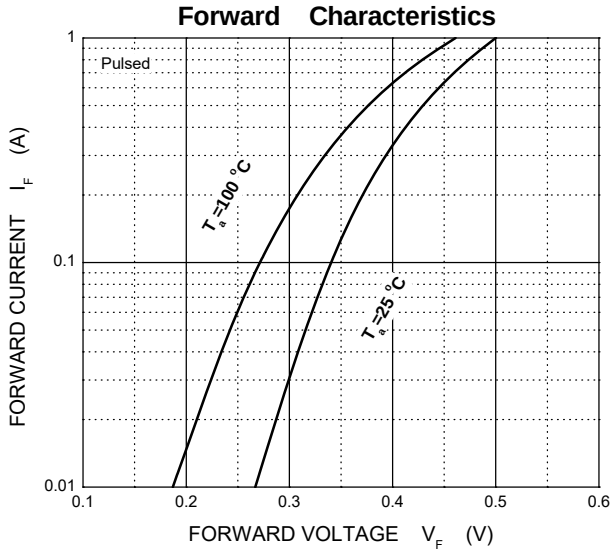

The marking bar indicates the cathode
Solid dot = Green molding compound device.

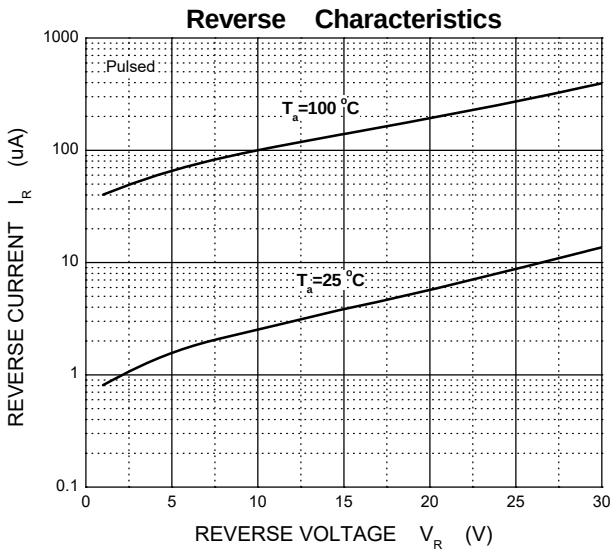
### Maximum Ratings @Ta=25℃

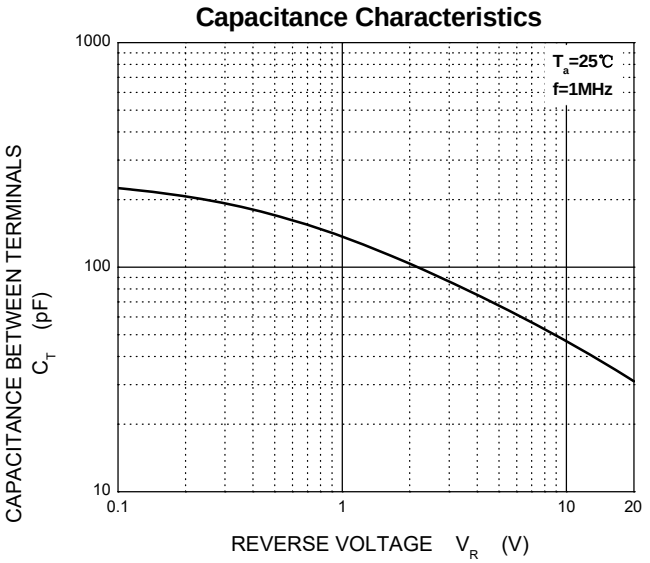
| Parameter | Symbo | Value | Unit |
|---|---|---|---|
| **Peak repetitive peak reverse voltage**<br>**Working peak reverse voltage**<br>**DC blocking voltage** | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 30 | V |
| **RMS reverse voltage reverse voltage (DC)** | $V_{R(RMS)}$ | 21 | V |
| **Average rectified output current** | $I_o$ | 0.5 | A |
| **Non-repetitive Peak Forward Surge Current @t=8.3ms** | $I_{FSM}$ | 5.5 | A |
| **Power dissipation** | $P_D$ | 500 | mW |
| **Thermal resistance junction to ambient** | $R_{\theta JA}$ | 200 | ℃/W |
| **Operating Junction Temperature Range** | $T_j$ | -40 ~ +125 | ℃ |
| **Storage Temperature Range** | $T_{STG}$ | -55 ~ +150 | ℃ |
| **Voltage rate of change** | dv/dt | 1000 | V/μs |

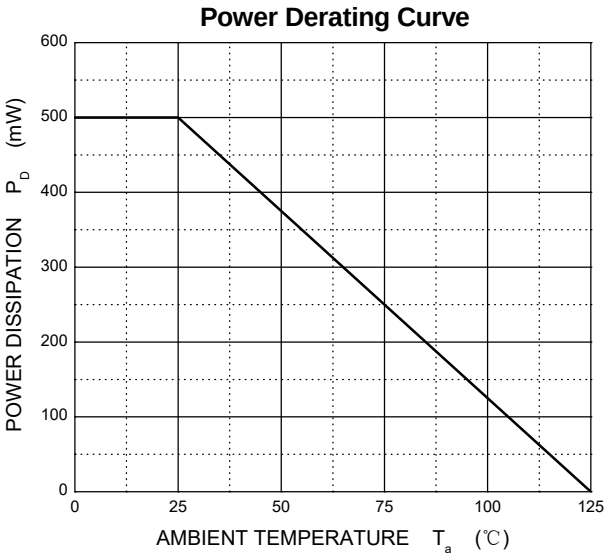
### Electrical Characteristics @Ta=25℃

| | Symbol | Test conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Reverse breakdown voltage** | $V_{(BR)}$ | $I_R$=200uA | 30 | | | V |
| **Reverse current** | $I_R$ | $V_R$=15V | | | 20 | uA |
| | | $V_R$=30V | | | 130 | |
| **Forward voltage** | $V_F$ | $I_F$=0.1A | | | 0.375 | V |
| | | $I_F$=0.5A | | | 0.430 | |
| **Capacitance between terminals** | $C_T$ | $V_R$=1,f=1MHz | | 170 | | pF |

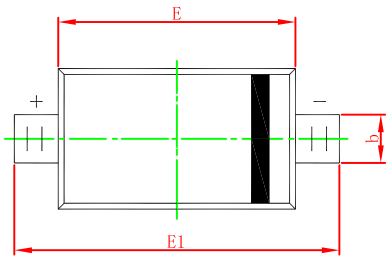

Forward Characteristics
Pulsed
$T_a$=100 °C
$T_a$=25 °C
FORWARD CURRENT $I_F$ (A)
FORWARD VOLTAGE $V_F$ (V)
1
0.1
0.01
0.1
0.2
0.3
0.4
0.5
0.6

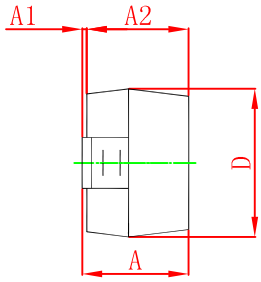

Reverse Characteristics
Pulsed
$T_a$=100 °C
$T_a$=25 °C
REVERSE CURRENT $I_R$ (uA)
REVERSE VOLTAGE $V_R$ (V)
1000
100
10
1
0.1
0
5
10
15
20
25
30

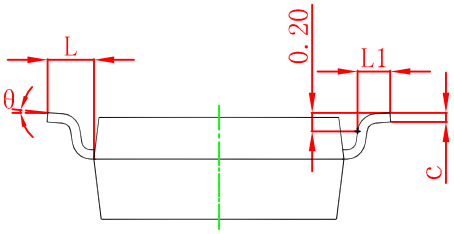

Capacitance Characteristics
$T_a$=25℃
f=1MHz
CAPACITANCE BETWEEN TERMINALS $C_T$ (pF)
REVERSE VOLTAGE $V_R$ (V)
1000
100
10
0.1
1
10
20


Power Derating Curve
POWER DISSIPATION $P_D$ (mW)
AMBIENT TEMPERATURE $T_a$ (℃)
600
500
400
300
200
100
0
0
25
50
75
100
125

## SOD-123 Package Outline Dimensions

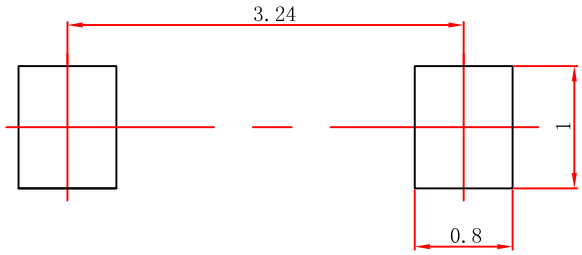



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 1.050 | 1.250 | 0.041 | 0.049 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 1.050 | 1.150 | 0.041 | 0.045 |
| b | 0.450 | 0.650 | 0.018 | 0.026 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 1.500 | 1.700 | 0.059 | 0.067 |
| E | 2.600 | 2.800 | 0.102 | 0.110 |
| E1 | 3.550 | 3.850 | 0.140 | 0.152 |
| L | 0.500 REF | | 0.020 REF | |
| L1 | 0.250 | 0.450 | 0.010 | 0.018 |
| θ | 0° | 8° | 0° | 8° |

## SOD-123 Suggested Pad Layout

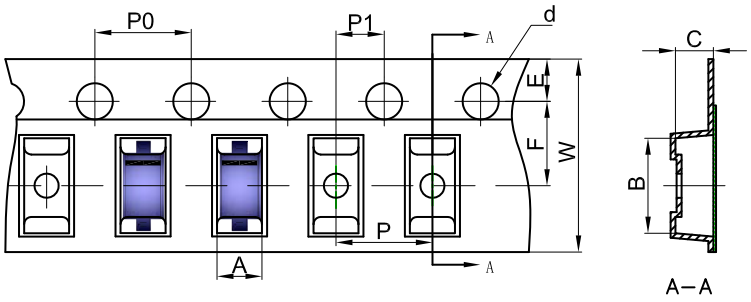



**Note:**
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

NOTICE
SZCJ reserves the right to make modifications,enhan nts,improvements,corrections or other es without further notice to any product herein. SZCJ does not assume any liability arising out of the application or use of any product described h

## SOD-123 Tape and Reel

### SOD-123 Embossed Carrier Tape

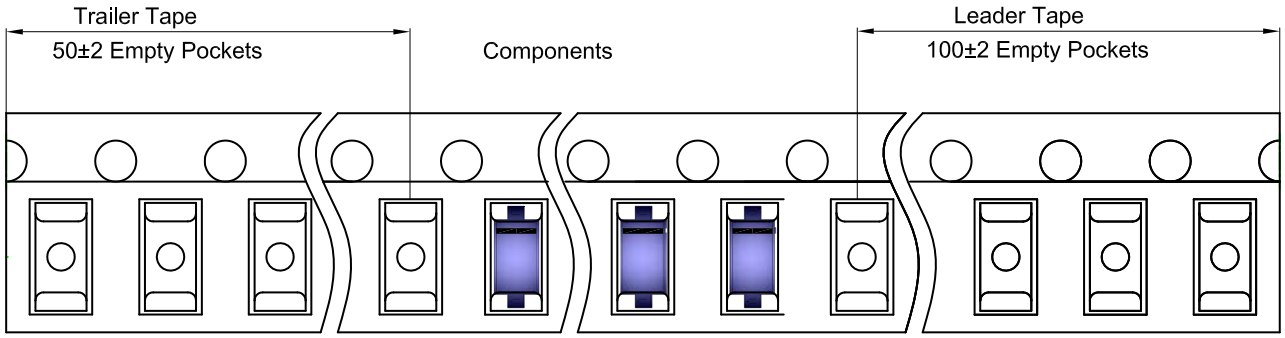



Packaging Description:

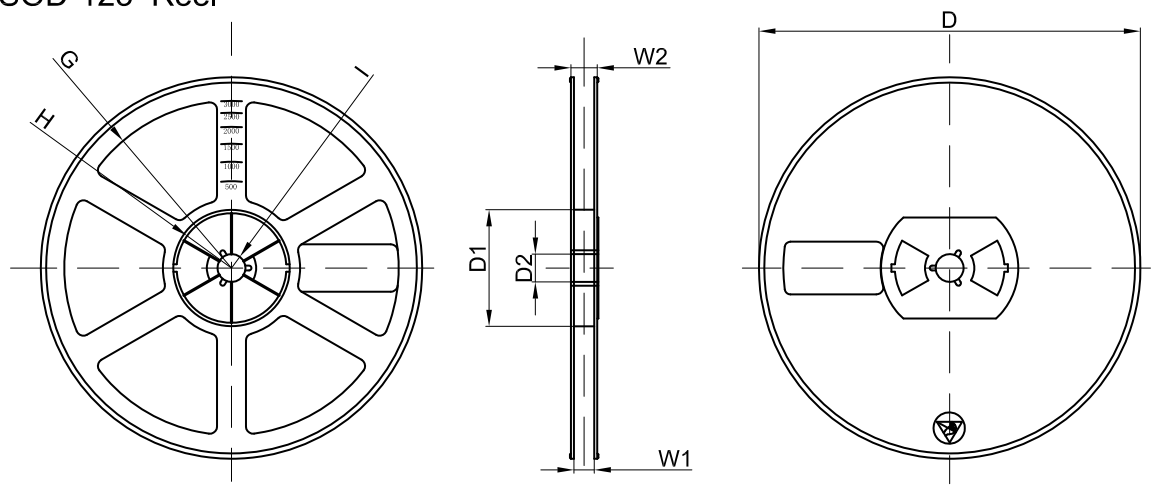
SOD-123 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts 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-123 | 1.85 | 3.95 | 1.57 | Ø1.55 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |

### SOD-123 Tape Leader and Trailer




### SOD-123 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 | |