

SOD-123 Plastic-Encapsulate Diodes

SCHOTTKY BARRIER DIODE

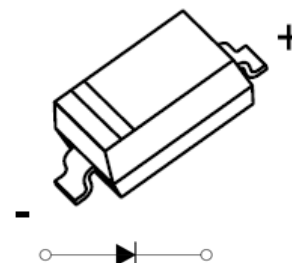
SOD-123

FEATURES

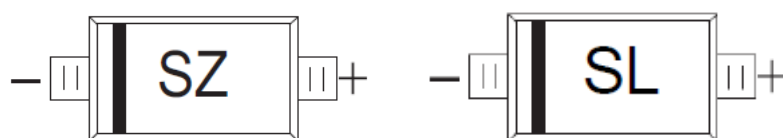
- Low Forward Voltage Drop
- Very Small SMD Package

APPLICATIONS

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



MARKING: SZ / SL



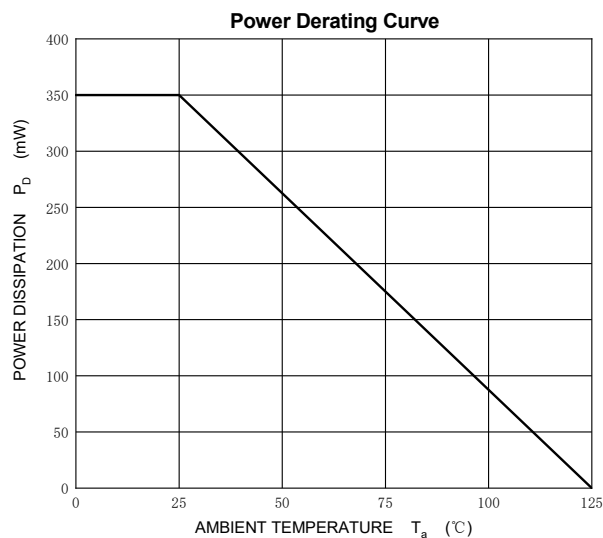
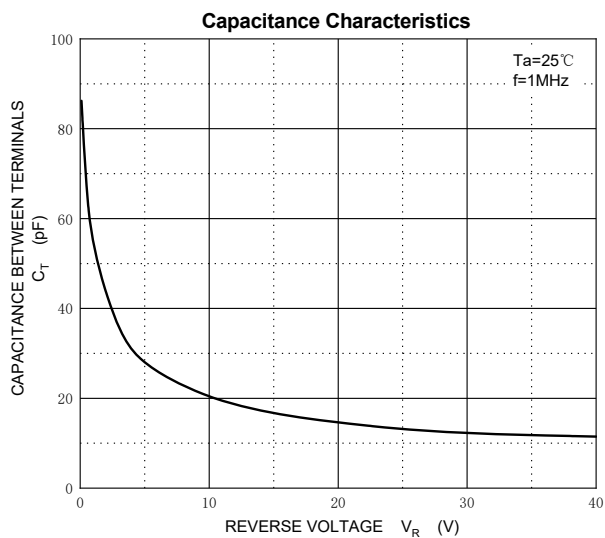
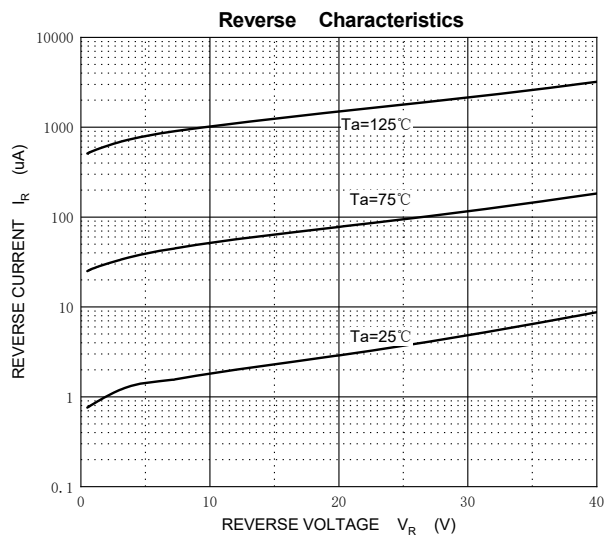
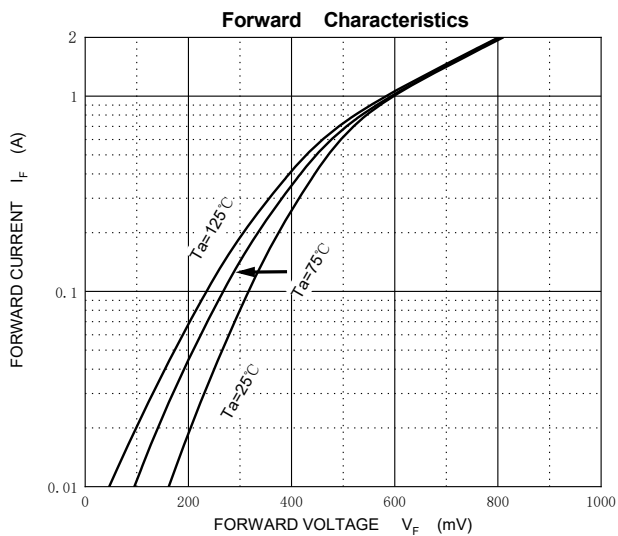
MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|-----------------|--|------------|-----------------------------|
| V_{RRM} | Peak Repetitive Reverse Voltage | 40 | V |
| V_{RWM} | Working Peak Reverse Voltage | | |
| $V_{R(RMS)}$ | RMS Reverse Voltage | 28 | V |
| I_o | Average Rectified Output Current | 1 | A |
| I_{FSM} | Non-repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$ | 15 | A |
| P_D | Power Dissipation | 500 | mW |
| $R_{\theta JA}$ | Thermal Resistance from Junction to Ambient | 400 | $^{\circ}\text{C}/\text{W}$ |
| T_j | Operating Junction Temperature Range | -40 ~ +125 | $^{\circ}\text{C}$ |
| T_{stg} | Storage Temperature Range | -55 ~ +150 | $^{\circ}\text{C}$ |

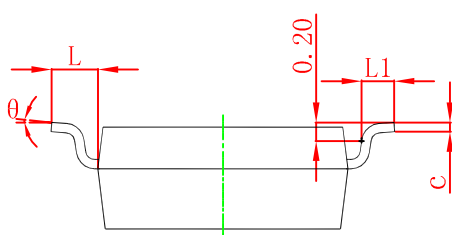
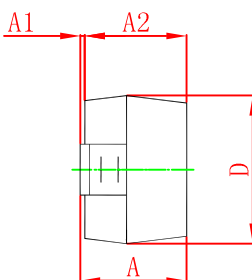
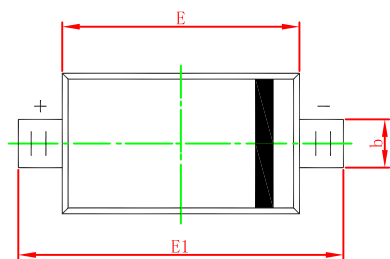
ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}\text{C}$ unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|---------------------------|------------|---------------------------------|-----|-----|------|---------------|
| Reverse breakdown voltage | $V_{(BR)}$ | $I_R=1\text{mA}$ | 40 | | | V |
| Reverse current | I_R | $V_R=20\text{V}$ | | | 30 | μA |
| Forward voltage | V_F | $I_F=0.5\text{A}$ | | | 0.51 | V |
| | | $I_F=0.7\text{A}$ | | | 0.56 | |
| Total capacitance | C_{tot} | $V_R=10\text{V}, f=1\text{MHz}$ | | | 20 | pF |

Typical Characteristics

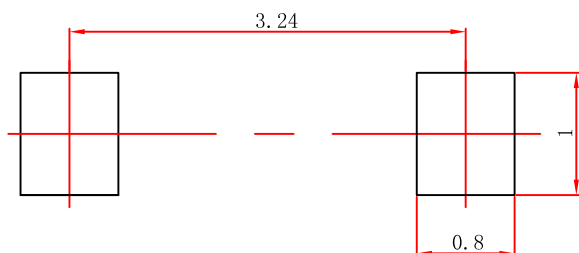


SOD-123 Package Outline Dimensions



| 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° |

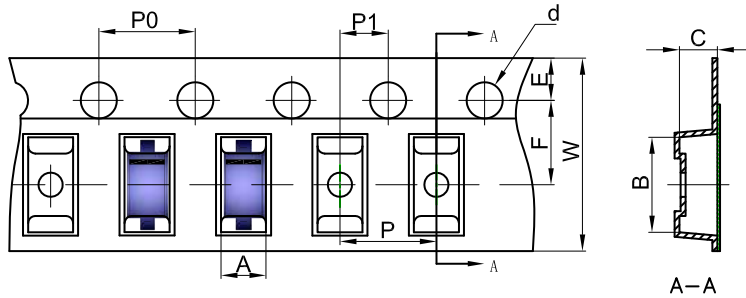
SOD-123 Suggested Pad Layout



- Note:**
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.

SOD-123 Tape and Reel

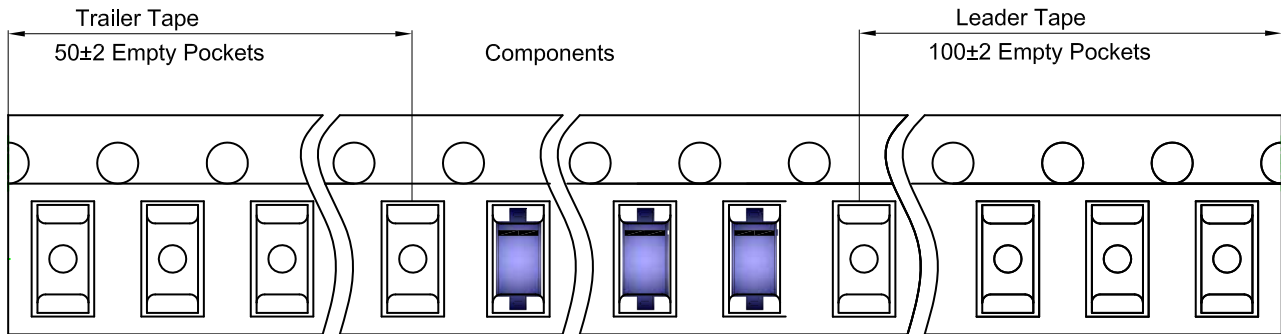
SOD-123 Embossed Carrier Tape



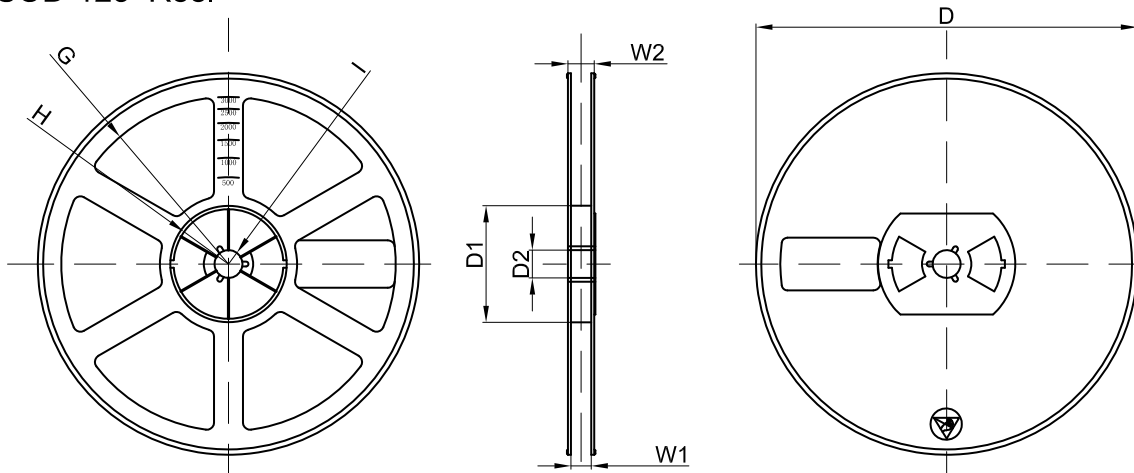
Packaging Description:
 SOD-123 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. 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 | |