SZCJ

Shenzhen Changji Semiconductor Co., LTD.

# SOD-123FL Plastic-Encapsulate Diodes

## DSR1A THRU DSR1M General Purpose Rectifier Diodes

### Features

- $I_{F(AV)}$ 1A
- $V_{RRM}$ 50V-1000V
- High surge current capability
- Polarity: Color band denotes cathode

**SOD-123FL**





### Applications

- Rectifier

### Marking

- DSR1A~DSR1K : A1~A6
  DSR1M：S1M

### Limiting Values(Absolute Maximum Rating)

| Item | Symbol | Unit | Test Conditions | DSR1 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | A | B | D | G | J | K | M |
| Repetitive Peak Reverse Voltage | $V_{RRM}$ | V | | 50 | 100 | 200 | 400 | 600 | 800 | 1000 |
| Maximum RMS Voltage | $V_{RMS}$ | V | | 35 | 70 | 140 | 280 | 420 | 560 | 700 |
| Maximum DC Blocking Voltage | $V_{DC}$ | V | | 50 | 100 | 200 | 400 | 600 | 800 | 1000 |
| Average Forward Current | $I_{F(AV)}$ | A | 60Hz Half-sine wave，Resistance load | 1.0 | | | | | | |
| Surge(Non-repetitive)Forward Current | $I_{FSM}$ | A | 60Hz Half-sine wave，1 cycle，Ta=25℃ | 30 | | | | | | |
| Junction Temperature | $T_J$ | ℃ | | -55 ~ +150 | | | | | | |
| Storage Temperature | $T_{STG}$ | ℃ | | -55 ~ +150 | | | | | | |

### Electrical Characteristics (T=25℃ Unless otherwise specified)

| Item | Symbol | Unit | Test Condition | | DSR1 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | A | B | D | G | J | K | M |
| Maximum Peak Forward Voltage | $V_F$ | V | $I_F$=1.0A | | 1.0 | | | | | | |
| Maximun Peak Reverse Current | $I_{RRM1}$ | μA | $V_{RM}=V_{RRM}$ | Ta=25℃ | 5 | | | | | | |
| | $I_{RRM2}$ | | | Ta=125℃ | 50 | | | | | | |
| Typical junction capacitance | $C_J$ | pF | Measured at 1MHz and applied reverse voltage of 4.0V D.C. | | 6 | | | | | | |
| Typical Thermal Resistance | $R_{\theta J-A}$ | ℃/W | Between junction and ambient | | 72 | | | | | | |
| | $R_{\theta J-L}$ | | Between junction and terminal | | 11 | | | | | | |

**Notes:**
Thermal resistance from junction to ambient and from juction to lead mounted on FR4 PCB double sided copper mini pad

## Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

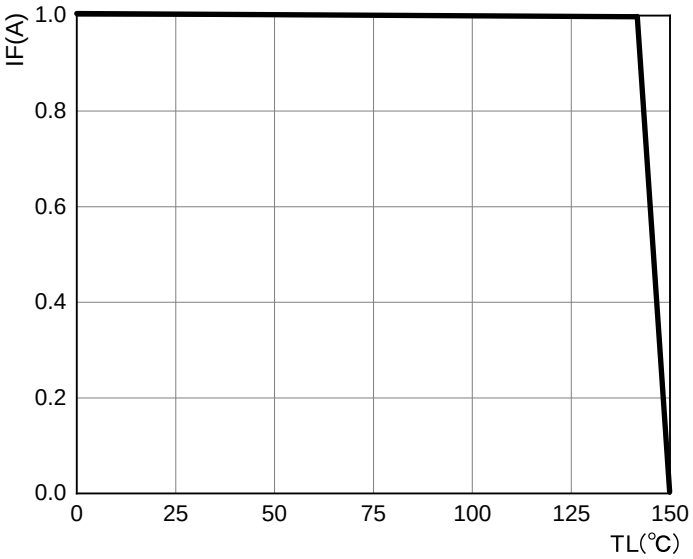



FIG 2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

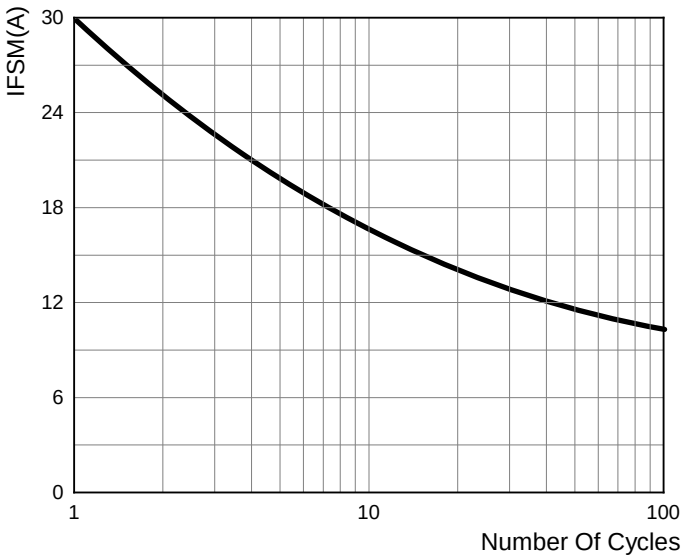



FIG.3 : TYPICAL FORWARD CHARACTERISTICS

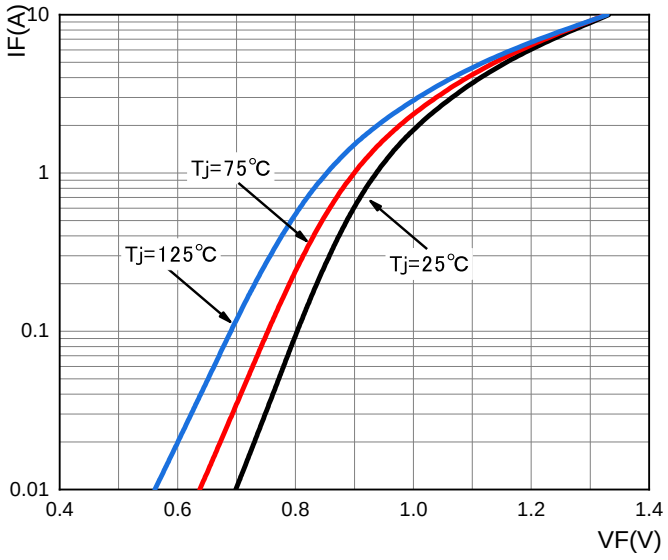
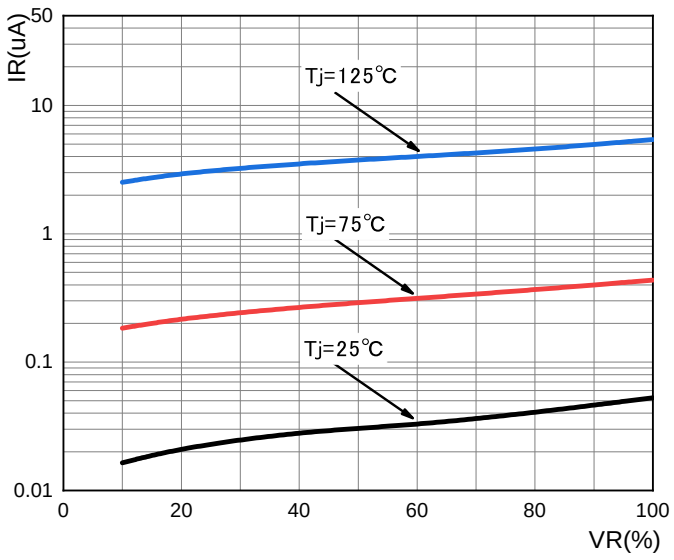
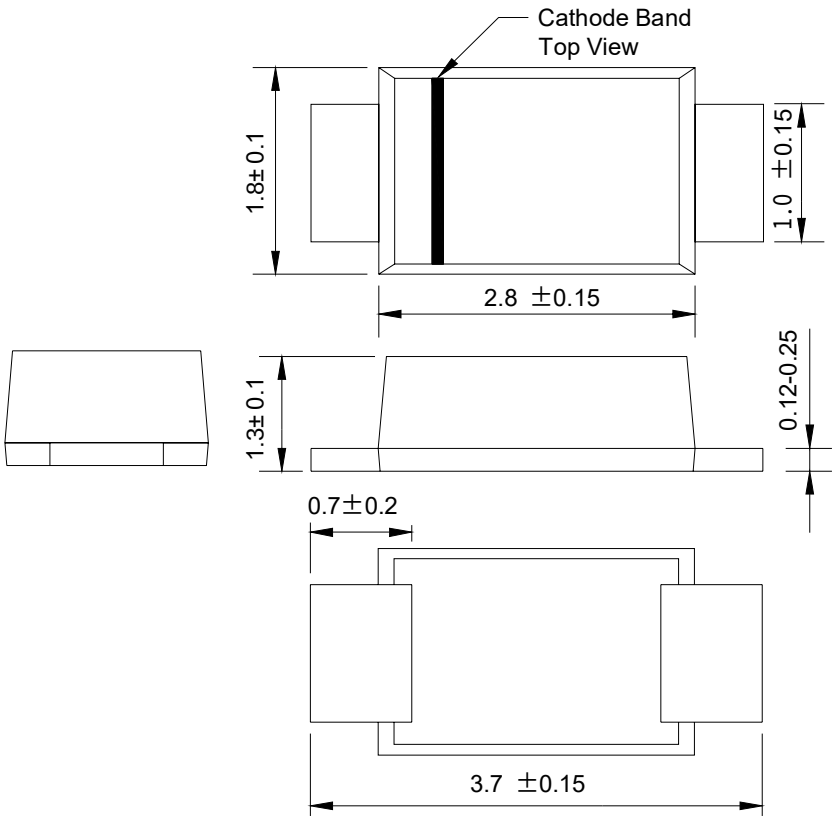



FIG.4 TYPCAL REVERSE CHARACTERISTICS

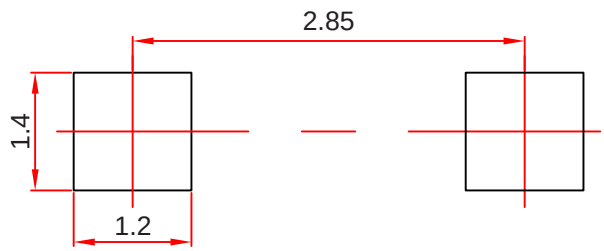


## SOD-123FL Package Outline Dimensions




Dimensions in millimeters

## SOD-123FL 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,enha 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 .

# Reel Taping Specifications For Surface Mount Devices-SOD-123FL

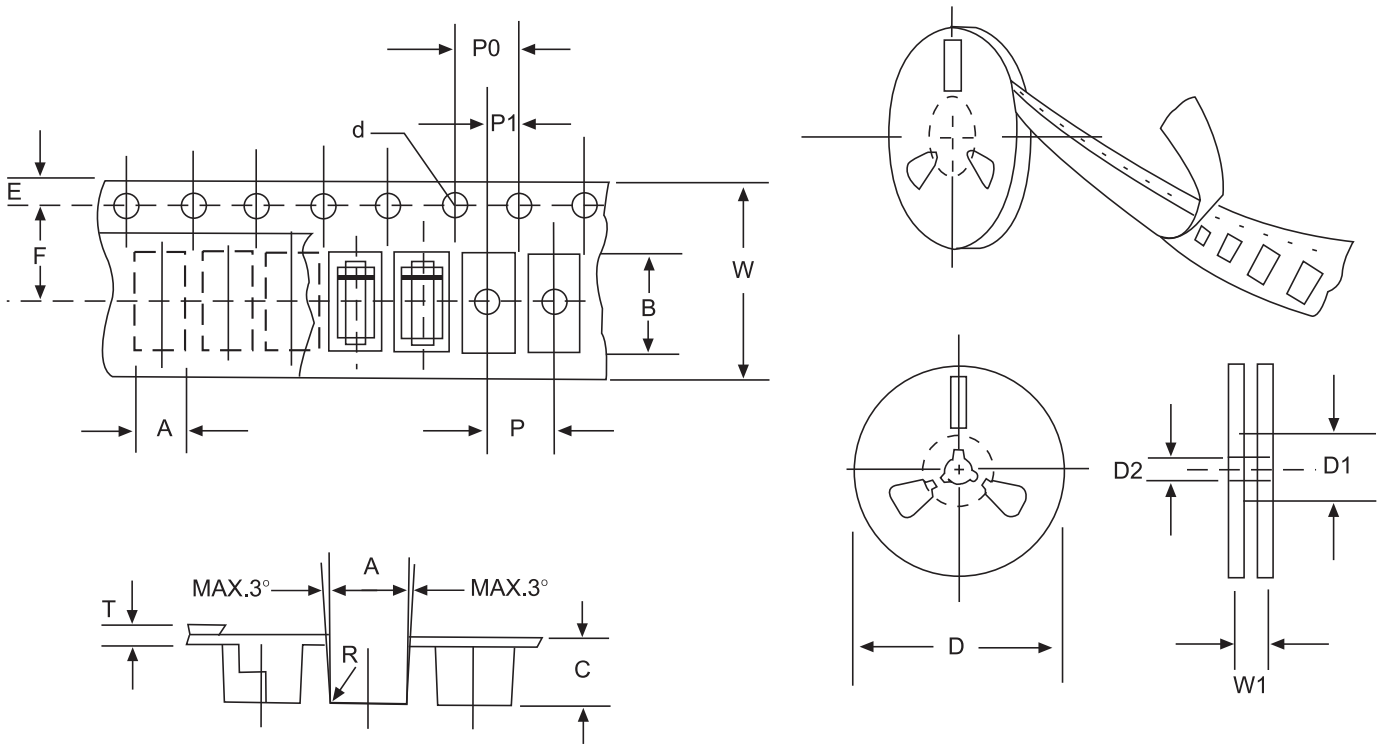



FIG:CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING

| ITEM | SYMBOL | SOD-123FLmm(inch) |
|---|---|---|
| Carrier width | A | 2.05±0.1(0.081±0.004) |
| Carrier length | B | 3.95±0.1(0.156±0.004) |
| Carrier depth | C | 1.45±0.1(0.057±0.004) |
| Sprocket hole | d | 1.55±0.05(0.061±0.002) |
| Reel outside diameter | D | 178±2.0(7.0±0.079) |
| Reel inner diameter | D1 | 54±1.0(2.13±0.039) |
| Feed hole diameter | D2 | 13±0.5(0.512±0.020) |
| Strocket hole position | E | 1.75±0.1(0.069±0.004) |
| Punch hole position | F | 3.50±0.1(0.138±0.002) |
| Punch hole pitch | P | 4.0±0.1(0.157±0.004) |
| Sprocket hole pitch | P0 | 4.0±0.1(0.157±0.004) |
| Embossment center | P1 | 2.0±0.1(0.079±0.004) |
| Totall tape thickness | T | 0.21±0.25(0.008±0.010) |
| Tape width | W | 8.0±0.2(0.315±0.008) |
| Reel width | W1 | 10.0±2.0(0.394±0.079) |

NOTE:Devices are packed in accordance with EIA standard RS-481-A and specification given above.