

### Features

- High surge current capability
- Polarity: Color band denotes cathode

### Applications

- Rectifier

### Marking

- S2X (X = 2 To 20)

SOD-123FL



### Limiting Values(Absolute Maximum Rating)

| Item                                 | Symbol             | Unit | Test Conditions                        | DSS2       |    |    |          |    |    |     |     |     |
|--------------------------------------|--------------------|------|----------------------------------------|------------|----|----|----------|----|----|-----|-----|-----|
|                                      |                    |      |                                        | 2          | 3  | 4  | 5        | 6  | 8  | 10  | 15  | 20  |
| Repetitive Peak Reverse Voltage      | V <sub>RRM</sub>   | V    |                                        | 20         | 30 | 40 | 50       | 60 | 80 | 100 | 150 | 200 |
| Maximum RMS Voltage                  | V <sub>RMS</sub>   | V    |                                        | 14         | 21 | 28 | 35       | 42 | 56 | 70  | 105 | 140 |
| Average Forward Current              | I <sub>F(AV)</sub> | A    | 60Hz Half-sine wave<br>Resistance load | 2.0        |    |    |          |    |    |     |     |     |
| Surge(Non-repetitive)Forward Current | I <sub>FSM</sub>   | A    | 60Hz Half-sine wave<br>1 cycle, Ta=25℃ | 50         |    |    |          |    |    |     |     |     |
| Junction Temperature                 | T <sub>J</sub>     | ℃    |                                        | -55~+125   |    |    | -55~+150 |    |    |     |     |     |
| Storage Temperature                  | T <sub>STG</sub>   | ℃    |                                        | -55 ~ +150 |    |    |          |    |    |     |     |     |

### Electrical Characteristics ( $T = 25^{\circ}\text{C}$ Unless otherwise specified)

| Item                          | Symbol            | Unit     | Test Condition                                            |         | DSS2 |   |   |      |     |      |    |      |    |
|-------------------------------|-------------------|----------|-----------------------------------------------------------|---------|------|---|---|------|-----|------|----|------|----|
|                               |                   |          |                                                           |         | 2    | 3 | 4 | 5    | 6   | 8    | 10 | 15   | 20 |
| Peak Forward Voltage          | V <sub>F</sub>    | V        | I <sub>F</sub> =2.0A                                      |         | 0.55 |   |   | 0.70 |     | 0.85 |    | 0.95 |    |
| Peak Reverse Current          | I <sub>RRM1</sub> | mA       | V <sub>RM</sub> =V <sub>RRM</sub>                         | Ta=25°C | 0.5  |   |   |      | 0.1 |      |    |      |    |
|                               | Ta=100°C          |          |                                                           | 10      |      |   |   | 5.0  |     |      |    |      |    |
| Thermal Resistance(Typical)   | R <sub>θJ-A</sub> | °C/<br>W | Between junction and ambient                              |         | 54   |   |   |      |     |      |    |      |    |
|                               | R <sub>θJ-L</sub> |          | Between junction and lead                                 |         | 10   |   |   |      |     |      |    |      |    |
| Juction Capacitance (Typical) | Cj                | pF       | Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C |         | 114  |   |   | 92   |     | 53   |    | 40   |    |

## Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

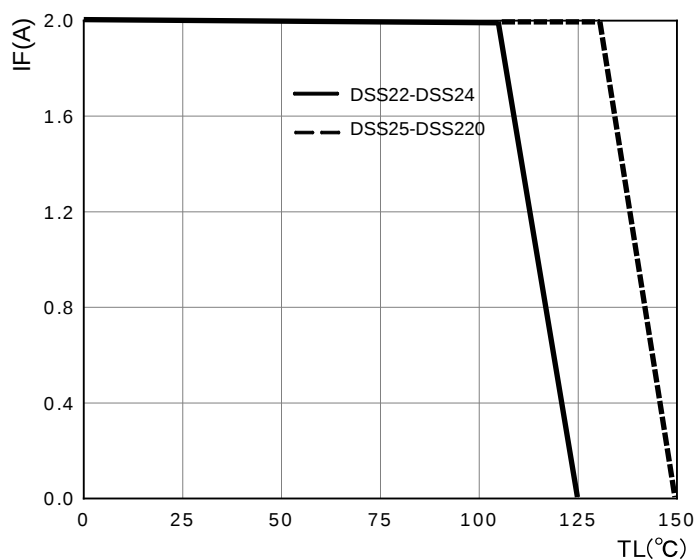
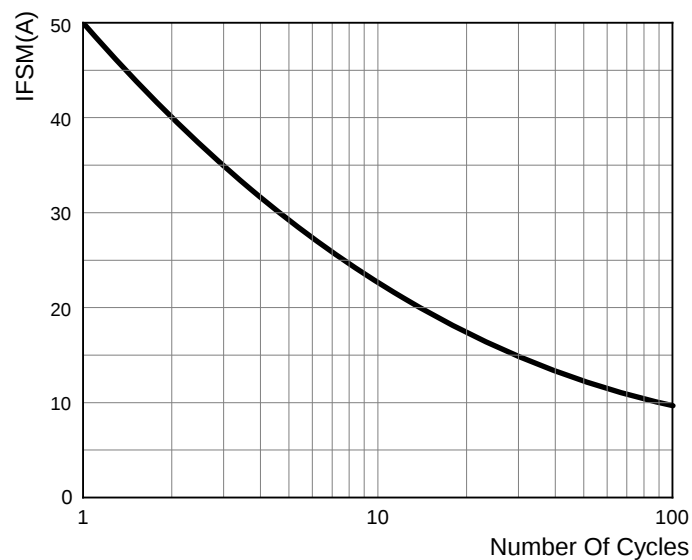
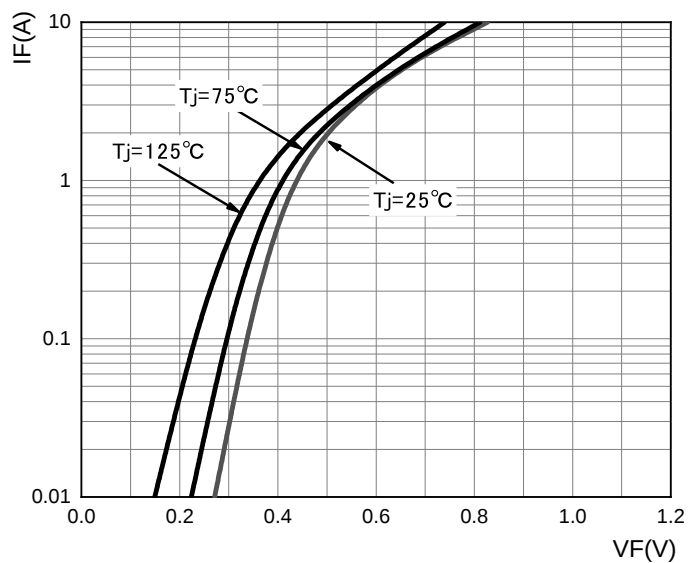


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



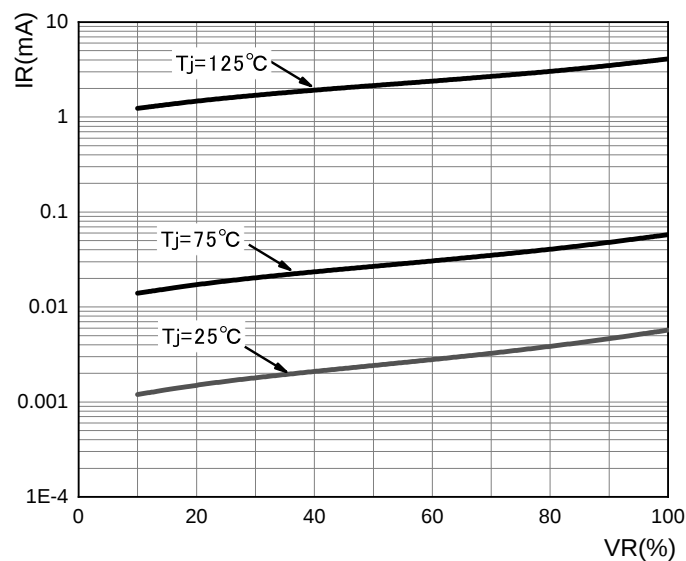
DSS22-DSS24

FIG.3: TYPICAL FORWARD CHARACTERISTICS



DSS22-DSS24

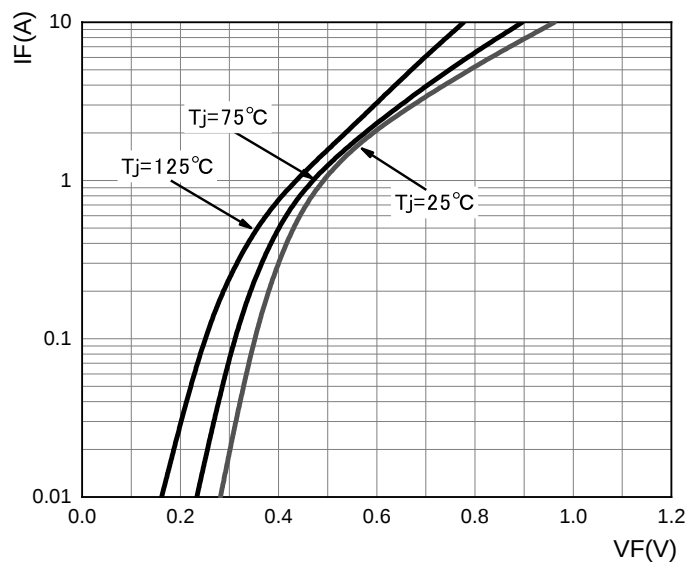
FIG.4: TYPICAL REVERSE CHARACTERISTICS



## Typical Characteristics

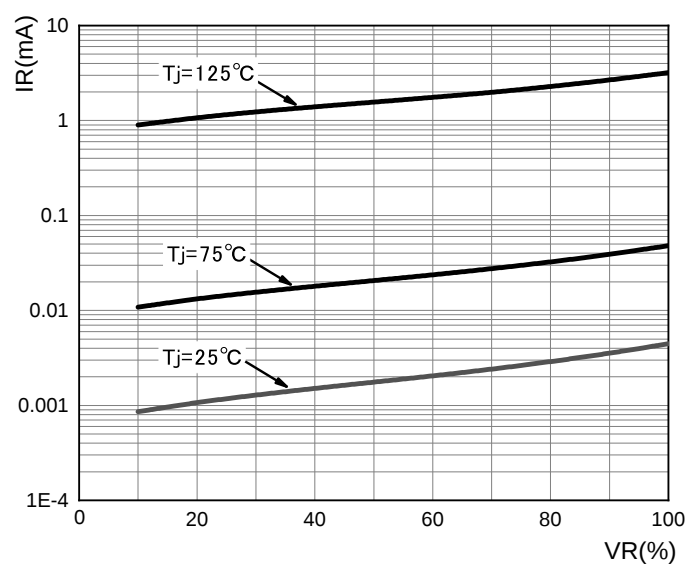
DSS25-DSS26

FIG.5: TYPICAL FORWARD CHARACTERISTICS



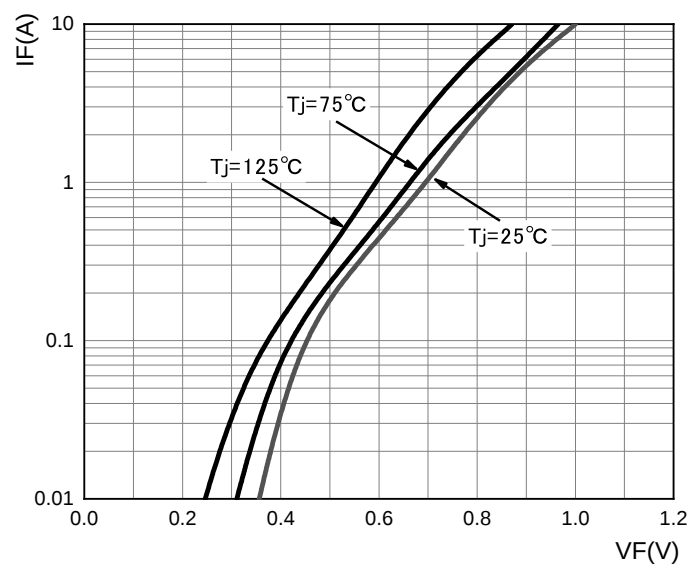
DSS25-DSS26

FIG.6: TYPICAL REVERSE CHARACTERISTICS



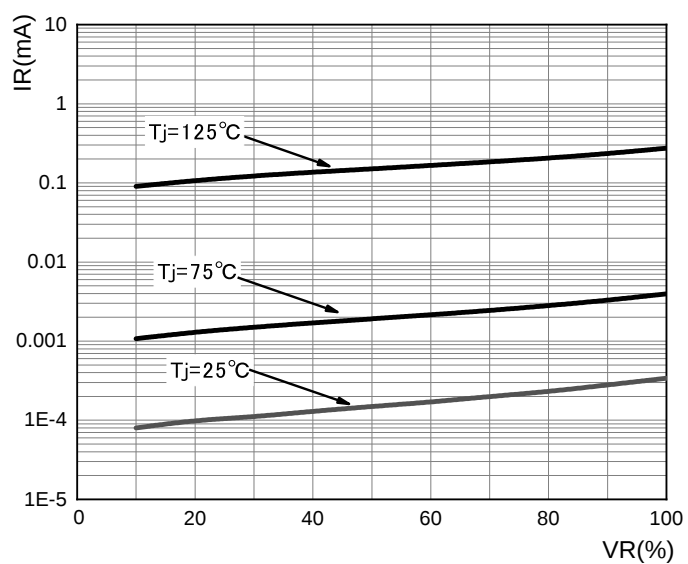
DSS28-DSS210

FIG.7: TYPICAL FORWARD CHARACTERISTICS



DSS28-DSS210

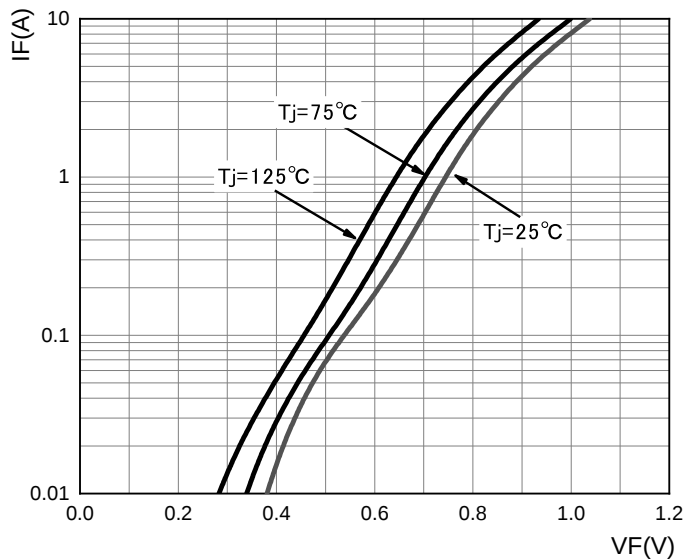
FIG.8: TYPICAL REVERSE CHARACTERISTICS



## Typical Characteristics

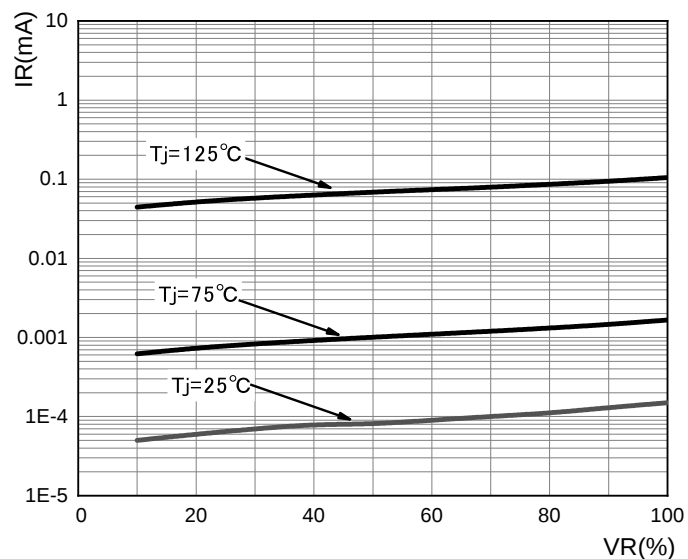
DSS215

FIG.9: TYPICAL FORWARD CHARACTERISTICS



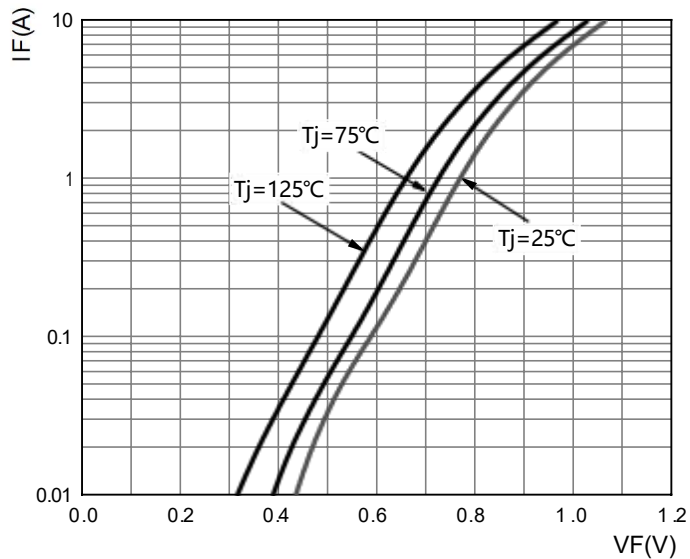
DSS215

FIG10: TYPICAL REVERSE CHARACTERISTICS



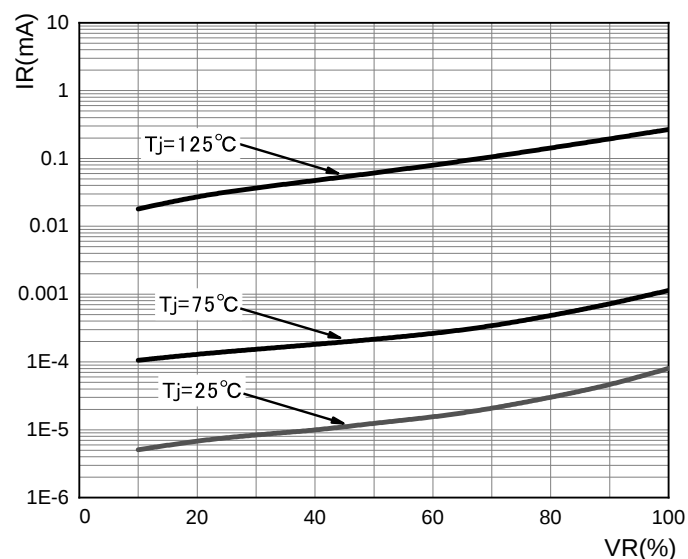
DSS220

FIG. 11 : TYPICAL FORWARD CHARACTERISTICS

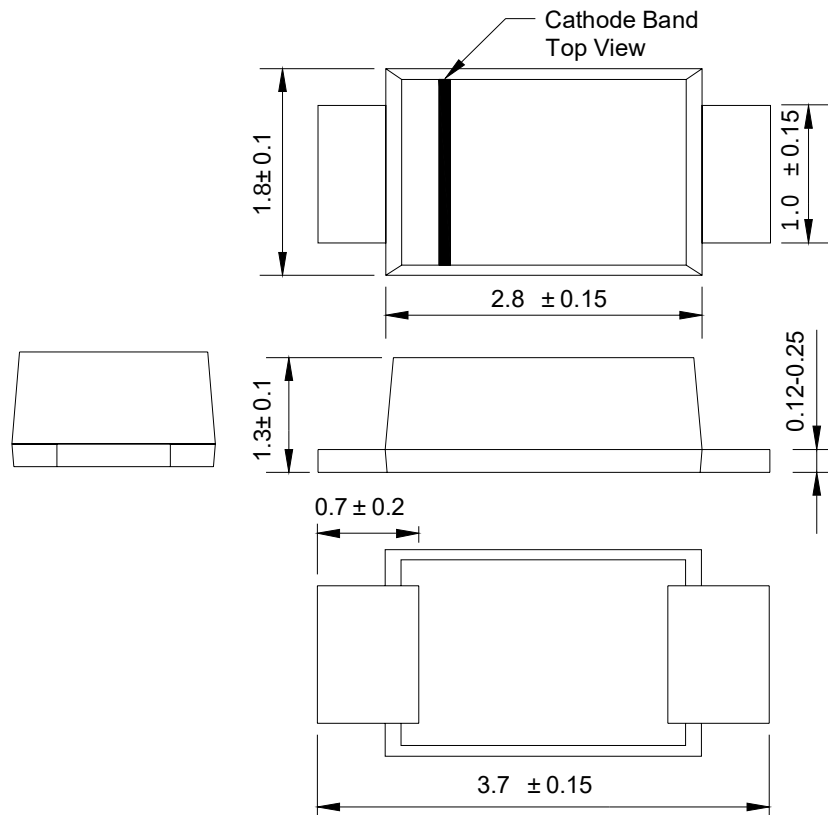


DSS220

FIG.12: TYPICAL REVERSE CHARACTERISTICS

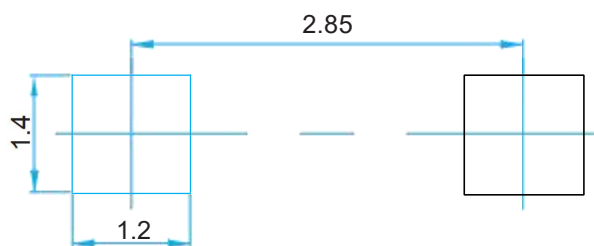


## SOD-1 23FL Package outline Dimensions



Dimensions in millimeters

## SOD-1 23FL Suggested pad Layout



### Note:

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