

## SMAF Plastic-Encapsulate Diodes

### SS54LF Schottky Rectifier Diode

#### Features

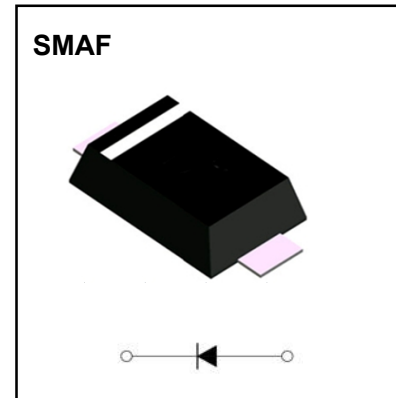
- $I_{F(AV)}$  5A
- $V_{RRM}$  40V
- High surge current capability
- Polarity: Color band denotes cathode
- Low peak forward voltage

#### Applications

- Rectifier

#### Marking

- SS54LF:SS54L



#### Limiting Values(Absolute Maximum Rating)

| Item                                 | Symbol      | Unit             | Test Conditions   | SS54LF     |
|--------------------------------------|-------------|------------------|---|------------|
| Repetitive Peak Reverse Voltage      | $V_{RRM}$   | V                |   | 40         |
| Maximum RMS Voltage                  | $V_{RMS}$   | V                |   | 28         |
| Average Forward Current              | $I_{F(AV)}$ | A                | 60Hz Half-sine wave,<br>Resistance load                 | 5.0        |
| Surge(Non-repetitive)Forward Current | $I_{FSM}$   | A                | 60Hz Half-sine wave,<br>1 cycle, $T_a=25^\circ\text{C}$ | 120        |
| Junction Temperature                 | $T_J$       | $^\circ\text{C}$ |   | -55 ~ +150 |
| Storage Temperature                  | $T_{STG}$   | $^\circ\text{C}$ |   | -55 ~ +150 |

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

| Item                           | Symbol           | Unit                      | Test Condition  |                         | SS54LF    |           |
|--------------------------------|------------------|---------------------------|---|-------------------------|-----------|-----------|
| Peak Forward Voltage           | $V_F$            | V                         | $I_F=5.0\text{A}$   | $T_a=25^\circ\text{C}$  | 0.42(TYP) | 0.45(MAX) |
| Peak Reverse Current           | $I_{RRM1}$       | mA                        | $V_{RM}=V_{RRM}$  | $T_a=25^\circ\text{C}$  | 0.05(TYP) | 0.3(MAX)  |
|                                | $I_{RRM2}$       |                           |   | $T_a=100^\circ\text{C}$ | 50        |           |
| Thermal Resistance(Typical)    | $R_{\theta J-A}$ | $^\circ\text{C}/\text{W}$ | Between junction and ambient                              |                         | 119       |           |
|                                | $R_{\theta J-L}$ |                           | Between junction and lead                                 |                         | 12        |           |
| Junction Capacitance (Typical) | $C_j$            | pF                        | Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C |                         | 420       |           |

#### Notes:

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

# Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

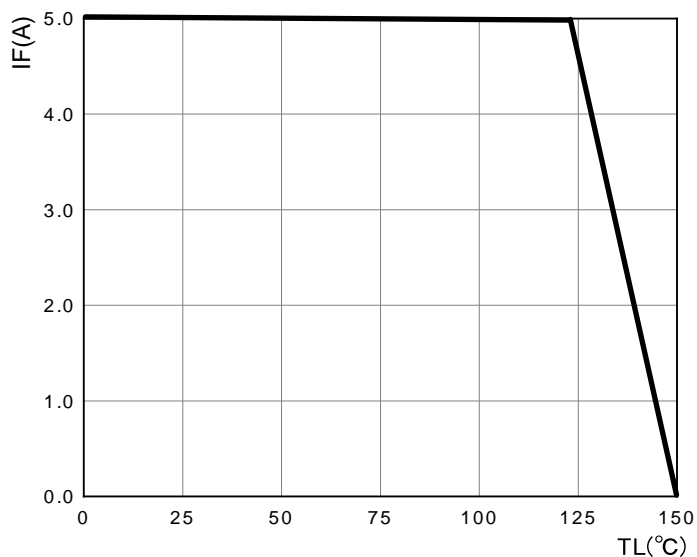


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

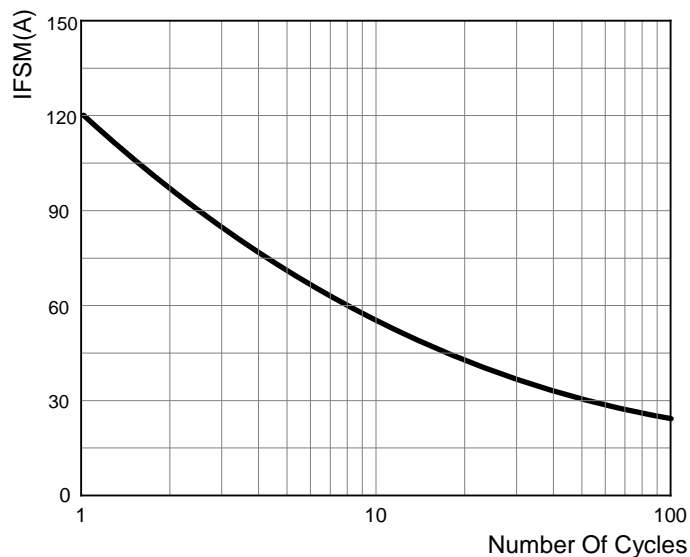


FIG.3: TYPICAL FORWARD CHARACTERISTICS

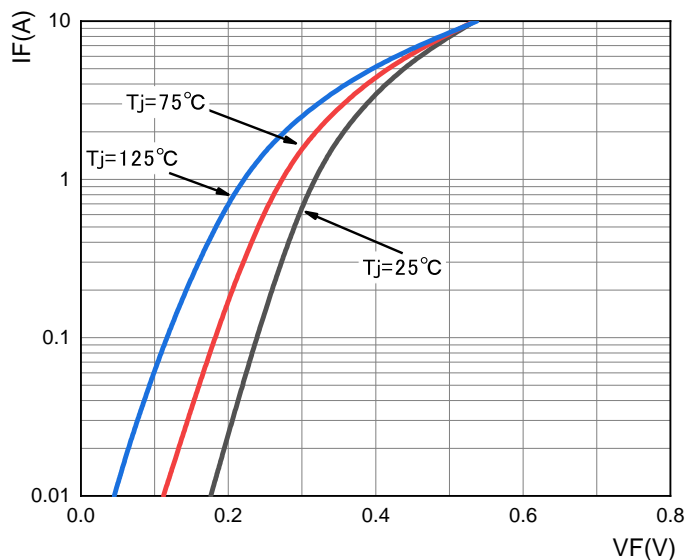
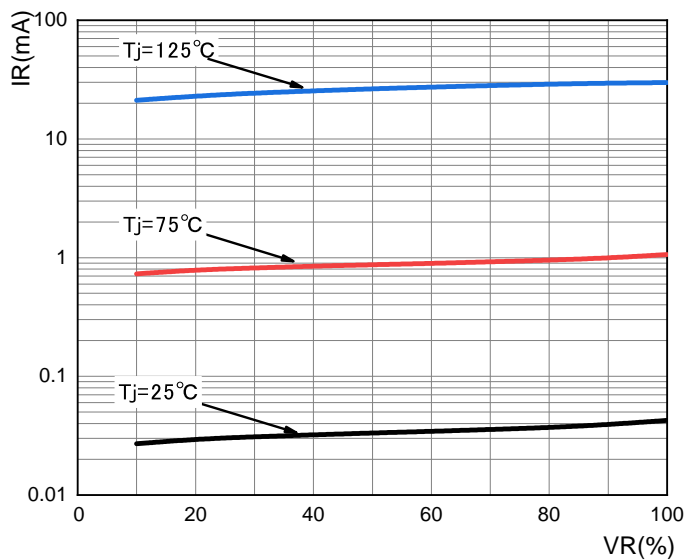
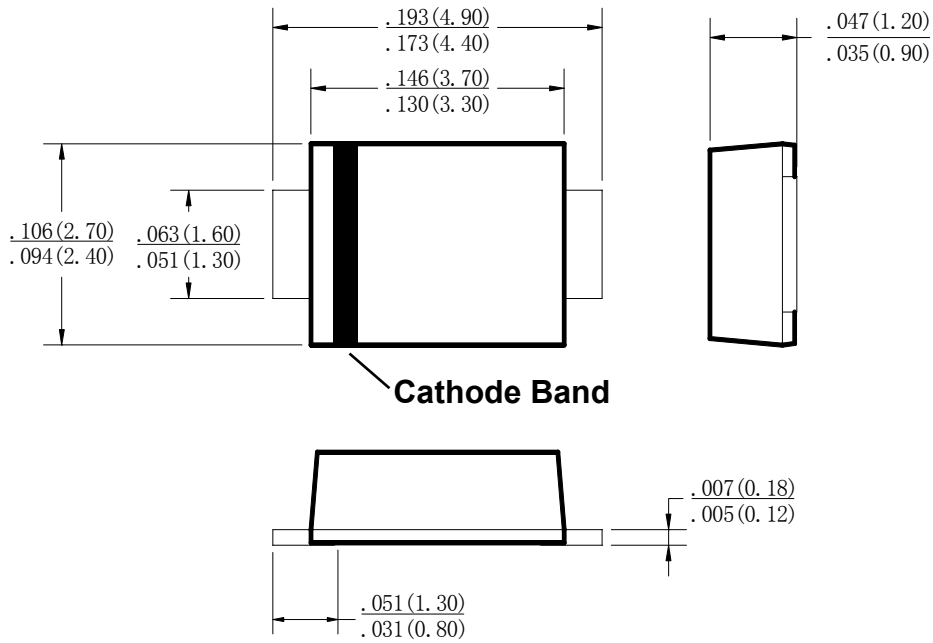


FIG.4: TYPICAL REVERSE CHARACTERISTICS



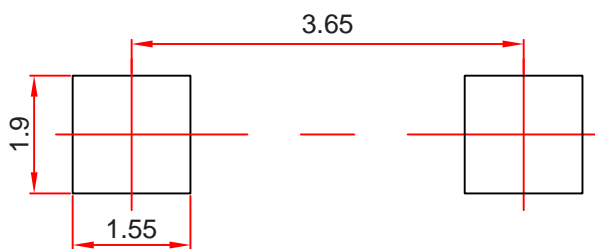
## SMAF Package Outline Dimensions



Cathode Band

Dimensions in inches and (millimeters)

## SMAF Suggested Pad Layout



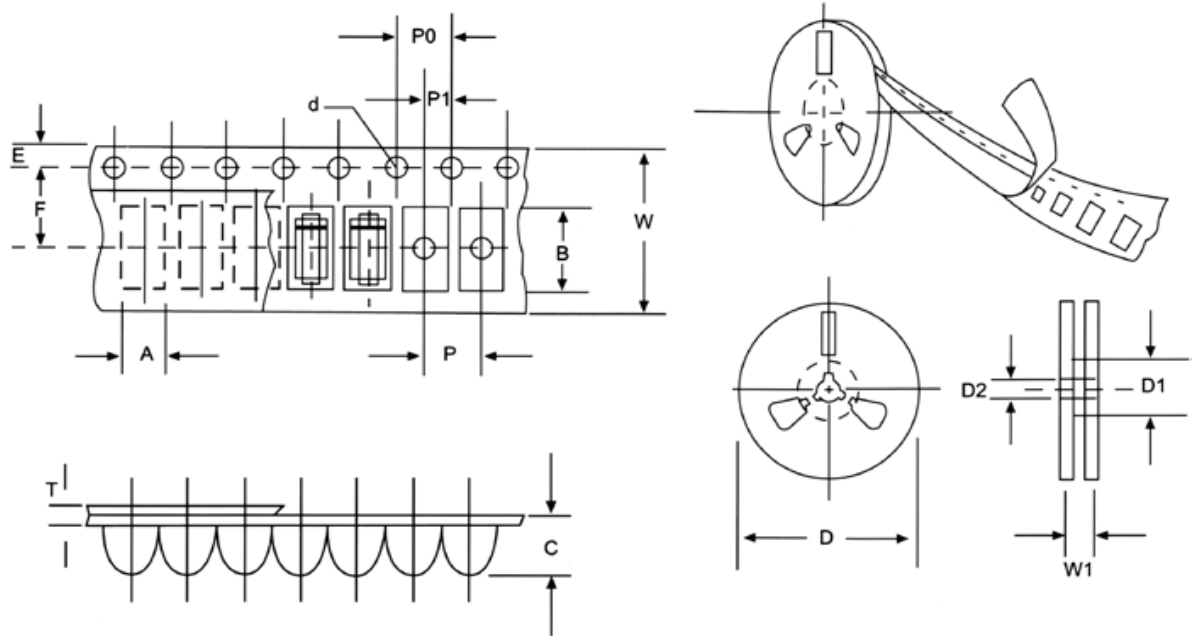
### Note:

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

### NOTICE

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# Reel Taping Specifications For Surface Mount Devices-SMAF



**FIG: CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING**

| ITEM                   | SYMBOL | SMAF mm(inch)          |
|------------------------|--------|------------------------|
| Carrier width          | A      | 2.83±0.1(0.112±0.004)  |
| Carrier length         | B      | 4.90±0.1(0.193±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)    |
| Sprocket hole position | E      | 1.75±0.1(0.069±0.004)  |
| Punch hole position    | F      | 5.5±0.05(0.217±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)   |
| Total tape thickness   | T      | 0.23-0.29(0.009-0.011) |
| Tape width             | W      | 12.0±0.1(0.472±0.004)  |
| Reel width             | W1     | 16.8±2.0(0.661±0.079)  |

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