

## SMAG Plastic-Encapsulate Diodes

### Schottky Rectifier

#### Features

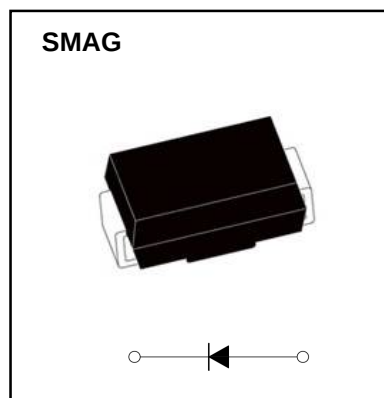
- $I_o$  5A
- $V_{RRM}$  40V
- High surge current capability
- Polarity: Color band denotes cathode
- Low  $V_f$

#### Applications

- Rectifier

#### Marking

- SS54L



#### Limiting Values (Absolute Maximum Rating)

| Item                                 | Symbol      | Unit               | Conditions                                                         | SS54L    |
|--------------------------------------|-------------|--------------------|--------------------------------------------------------------------|----------|
| 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, $T_a=100^{\circ}\text{C}$ | 5.0      |
| Surge(Non-repetitive)Forward Current | $I_{FSM}$   | A                  | 60Hz Half-sine wave,1 cycle,<br>$T_a=25^{\circ}\text{C}$           | 120      |
| Junction Temperature                 | $T_J$       | $^{\circ}\text{C}$ |                                                                    | -55~+150 |
| Storage Temperature                  | $T_{STG}$   | $^{\circ}\text{C}$ |                                                                    | -55~+150 |

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

| Item                        | Symbol           | Unit                 | Test Condition               |                           | SS54L     |           |
|-----------------------------|------------------|----------------------|------------------------------|---------------------------|-----------|-----------|
| Peak Forward Voltage        | $V_F$            | V                    | $I_F=1\text{A}$              | $T_a=25^{\circ}\text{C}$  | 0.32(TYP) | 0.35(MAX) |
|                             |                  |                      | $I_F=3\text{A}$              |                           | 0.37(TYP) | 0.40(MAX) |
|                             |                  |                      | $I_F=5\text{A}$              |                           | 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) | $R_{\theta J-A}$ | $^{\circ}\text{C/W}$ | Between junction and ambient |                           | 55        |           |
|                             | $R_{\theta J-L}$ |                      | Between junction and lead    |                           | 17        |           |

## Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

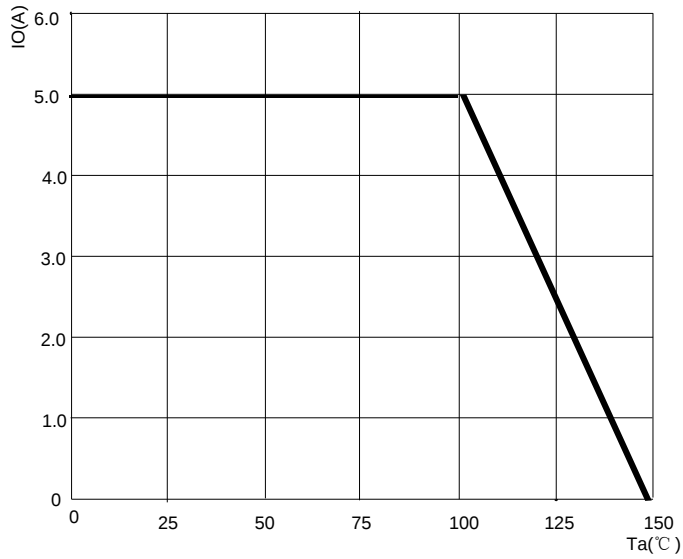


FIG.2: MAXIMUM NON-REPETITIVE FORWARD URGE CURRENT

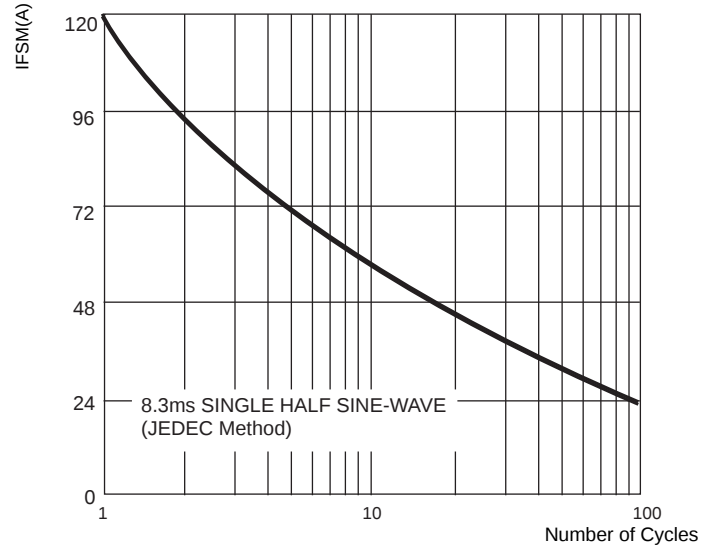


FIG3: Forward Voltage

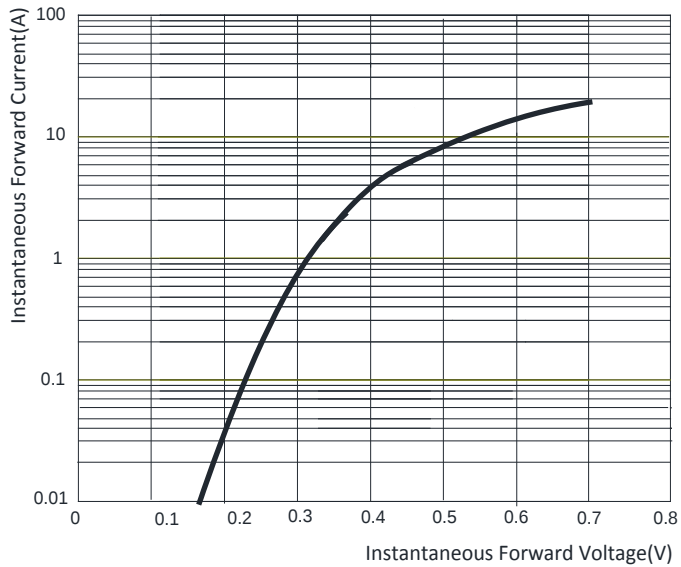
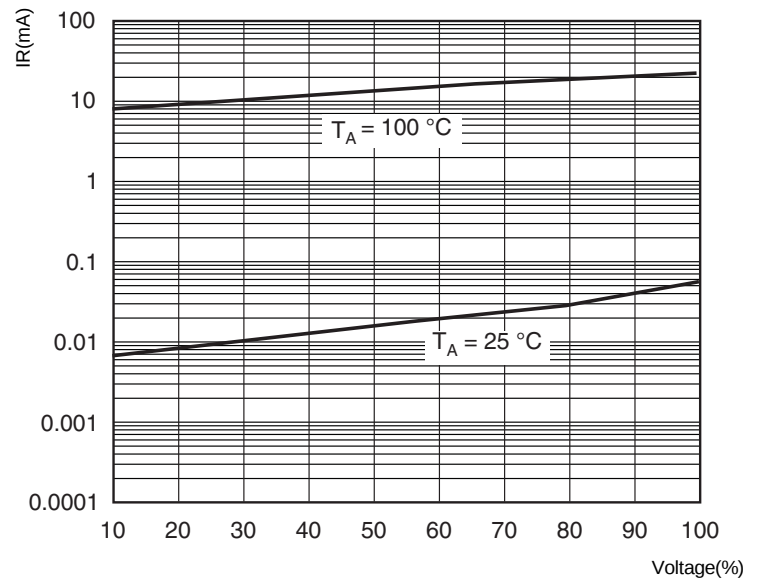
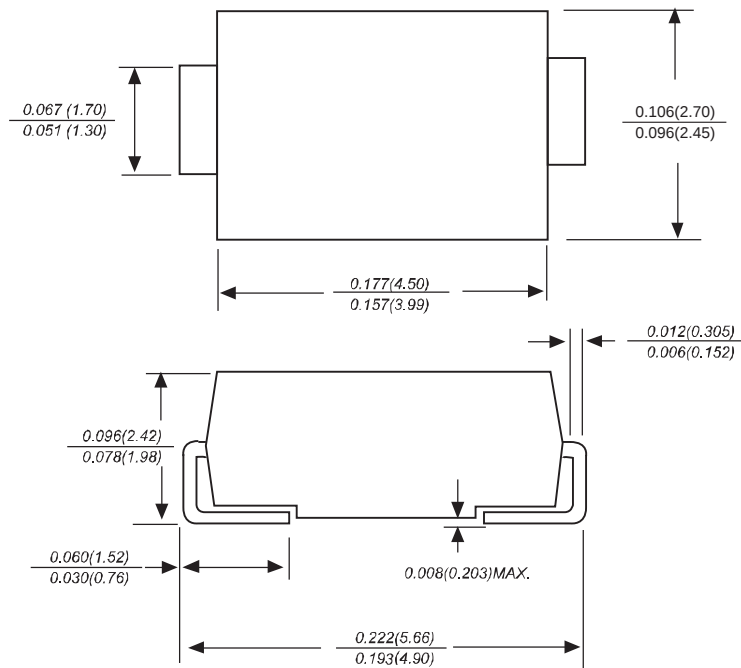


FIG.4: TYPICAL REVERSE CHARACTERISTICS

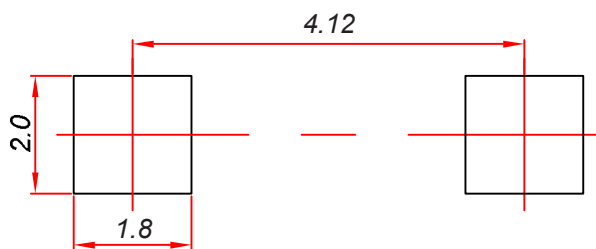


## SMAG Package Outline Dimensions



Dimensions in inches and (millimeters)

## SMAG Suggested Pad Layout

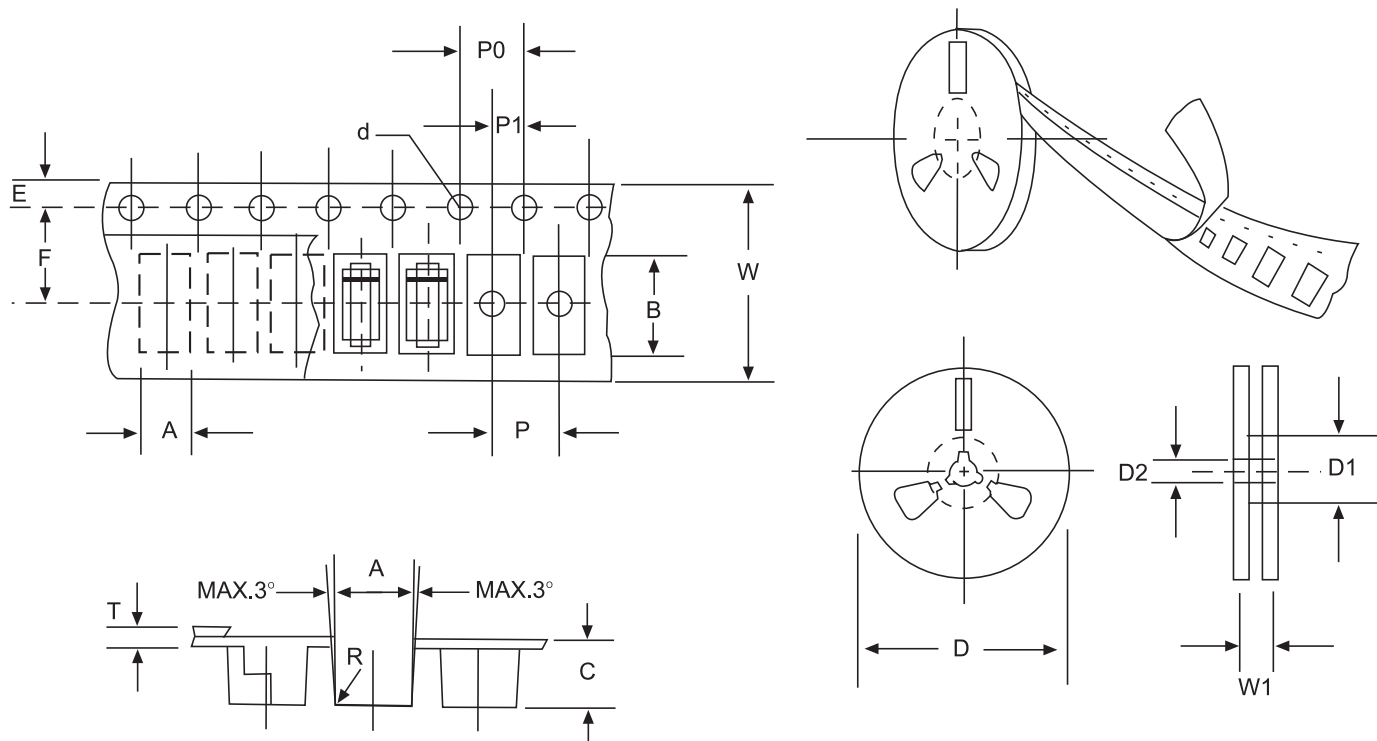


### Note:

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

### NOTICE

JSHD reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSHD does not assume any liability arising out of the application or use of any product described herein.



**Fig:CONFIGURATION OF FLAT MELF TAPING**

| ITEM                   | SYMBOL | SMAG mm(inch)             |
|------------------------|--------|---------------------------|
| Carrier width          | A      | 2.79±0.1(0.110±0.004)     |
| Carrier length         | B      | 5.33±0.1(0.210±0.004)     |
| Carrier depth          | C      | 2.36±0.1(0.093±0.004)     |
| Sprocket hole          | d      | 1.55±0.05 (0.061±0.002)   |
| Reel outside diameter  | D      | 279±2.0 (11± 0.079)       |
| Reel inner diameter    | D1     | 75 ±1.0 ( 2.95 ±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      | 0.28±0.02(0.011 ±0.0008 ) |
| Tape width             | W      | 12.0±0.2(0.472±0.008)     |
| Reel width             | W1     | 16.8±2.0(0.661±0.079)     |

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