



## SMAG Plastic-Encapsulate Diodes

### SS22 THRU SS220

Schottky Rectifier Diodes

#### Features

- $I_{F(AV)}$  2A
- $V_{RRM}$  20V-200V
- High surge current capability
- Polarity: Color band denotes cathode

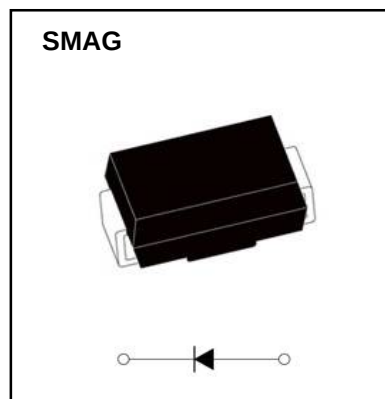
#### Applications

- Rectifier

#### Marking

- SS2X

X : From 2 To 20



#### Limiting Values(Absolute Maximum Rating)

| Item                                 | Symbol             | Unit | Test Conditions                          | SS2        |    |    |          |    |    |     |     |     |
|--------------------------------------|--------------------|------|------------------------------------------|------------|----|----|----------|----|----|-----|-----|-----|
|                                      |                    |      |                                          | 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°C Unless otherwise specified)

| Item                          | Symbol                        | Unit     | Test Condition                                            |                      | SS2  |   |      |     |      |   |      |    |
|-------------------------------|-------------------------------|----------|-----------------------------------------------------------|----------------------|------|---|------|-----|------|---|------|----|
|                               |                               |          |                                                           |                      | 2    | 3 | 4    | 5   | 6    | 8 | 10   | 15 |
| 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>                         | T <sub>a</sub> =25°C | 0.5  |   |      |     | 0.1  |   |      |    |
|                               | T <sub>a</sub> =100°C         |          |                                                           | 10                   |      |   |      | 5.0 |      |   |      |    |
| Thermal Resistance            | R <sub>θJ-A</sub>             | °C/<br>W | Between junction and ambient                              |                      | 88   |   |      |     |      |   |      |    |
|                               | Between junction and terminal |          | 28                                                        |                      |      |   |      |     |      |   |      |    |
| Juction Capacitance (Typical) | C <sub>j</sub>                | pF       | Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C |                      | 114  |   | 92   |     | 53   |   | 40   |    |

#### 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

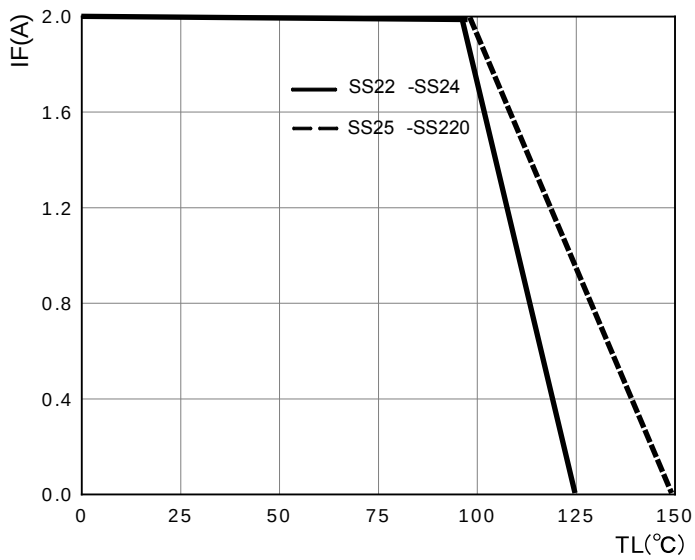
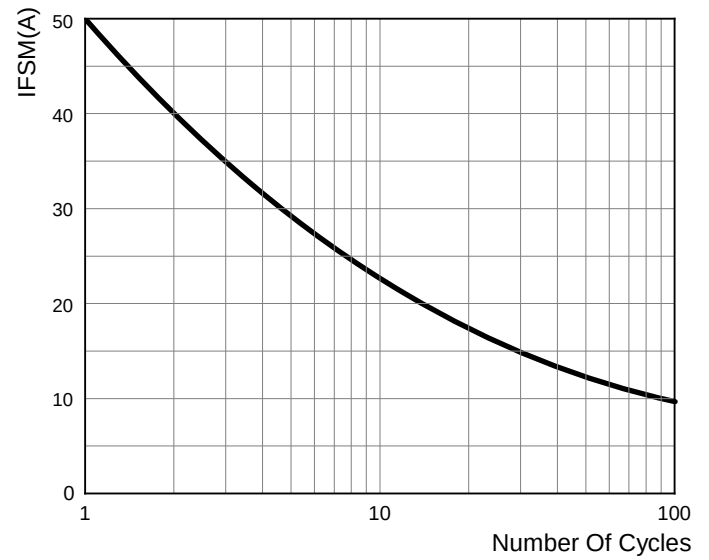
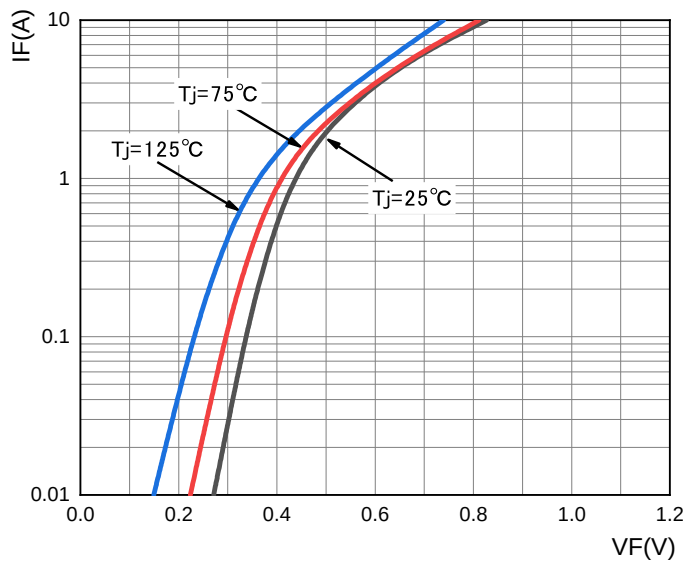


FIG 2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



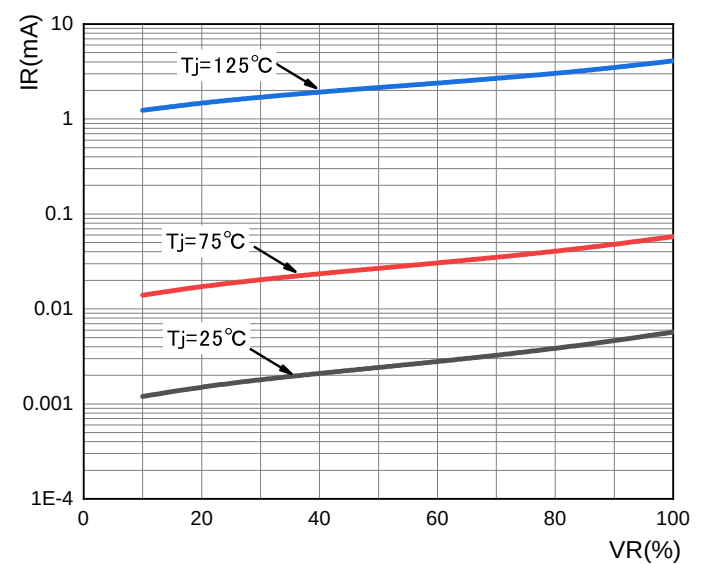
SS22-SS24

FIG.3: TYPICAL FORWARD CHARACTERISTICS



SS22-SS24

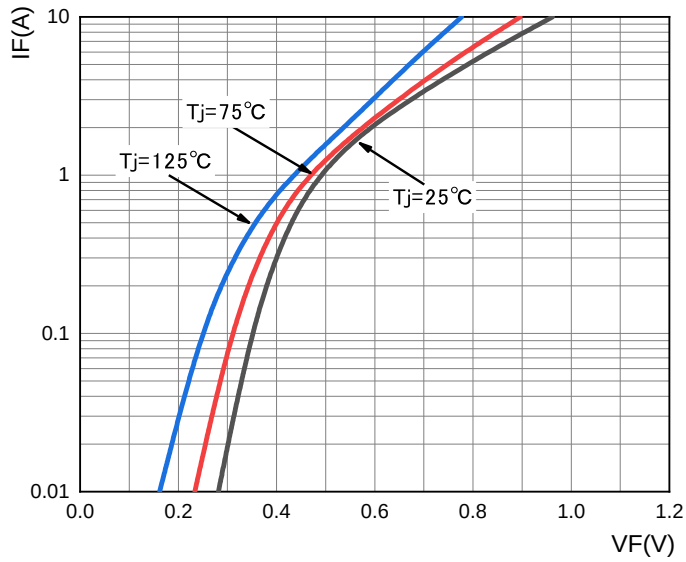
FIG.4: TYPICAL REVERSE CHARACTERISTICS



## Typical Characteristics

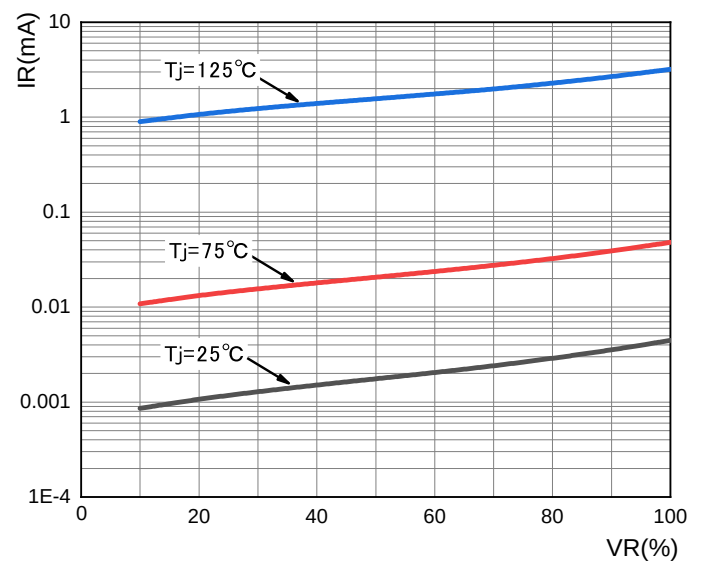
SS25-SS26

FIG.5: TYPICAL FORWARD CHARACTERISTICS



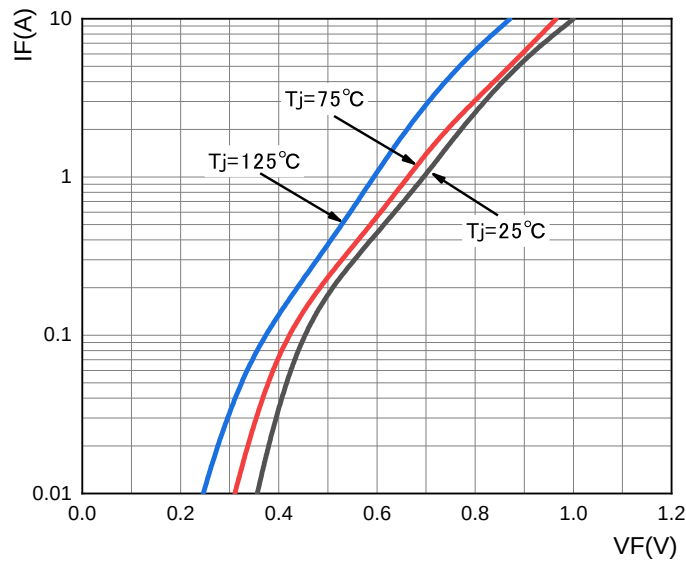
SS25-SS26

FIG.6: TYPICAL REVERSE CHARACTERISTICS



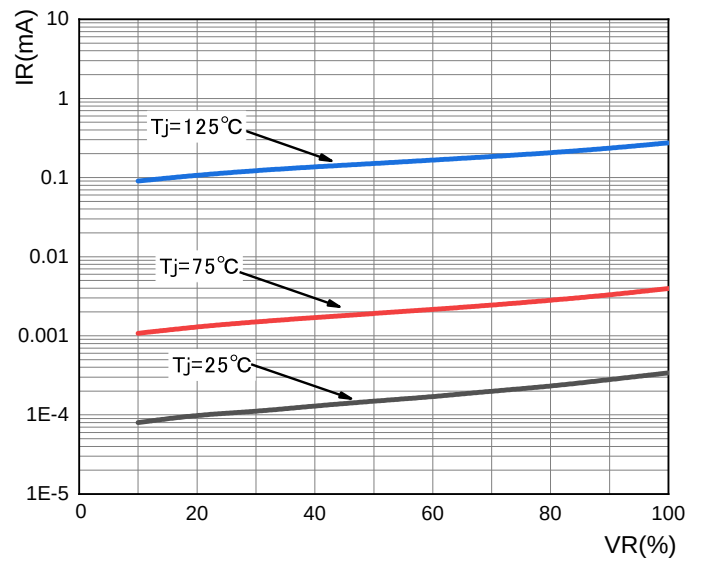
SS28-SS210

FIG.7: TYPICAL FORWARD CHARACTERISTICS



SS28-SS210

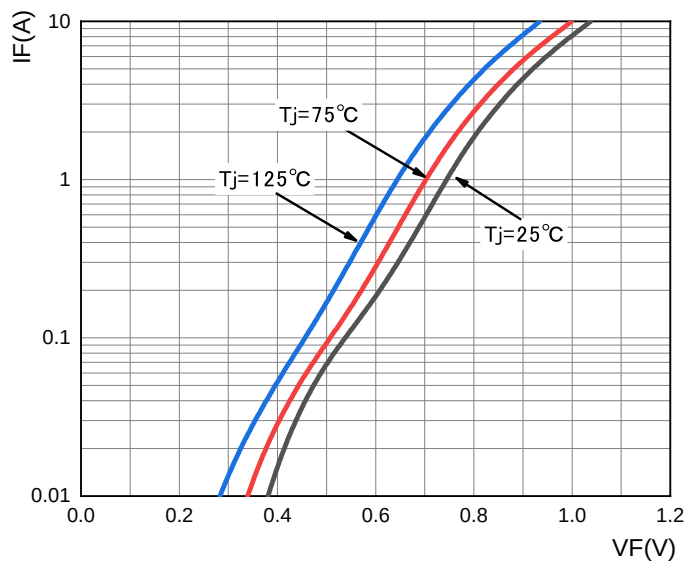
FIG.8: TYPICAL REVERSE CHARACTERISTICS



## Typical Characteristics

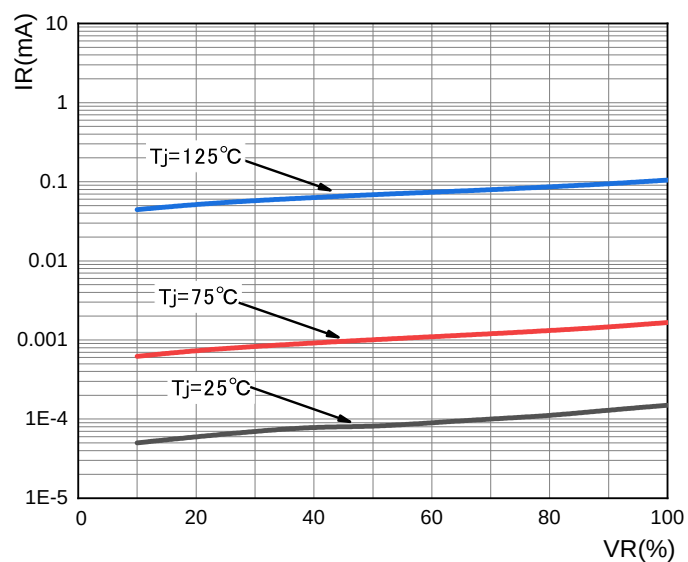
SS215

FIG.9: TYPICAL FORWARD CHARACTERISTICS



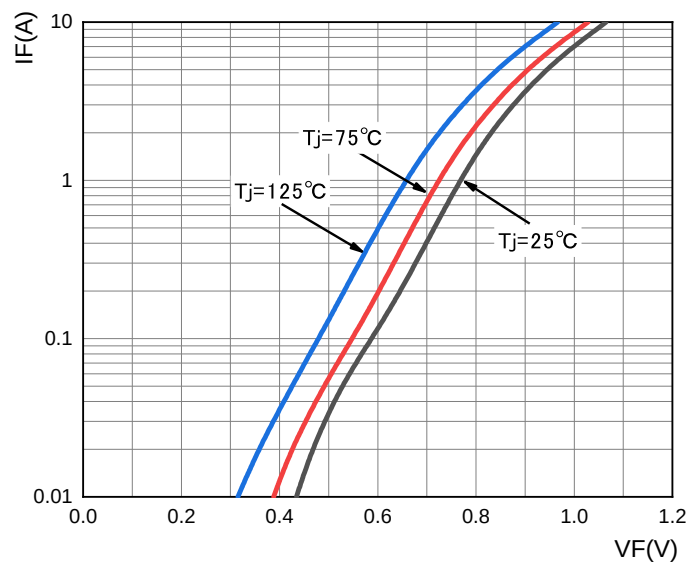
SS215

FIG.10: TYPICAL REVERSE CHARACTERISTICS



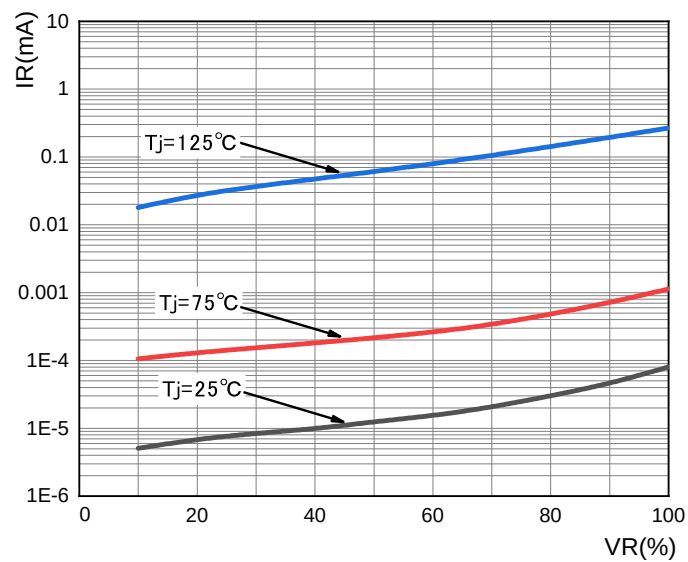
SS220

FIG.11: TYPICAL FORWARD CHARACTERISTICS

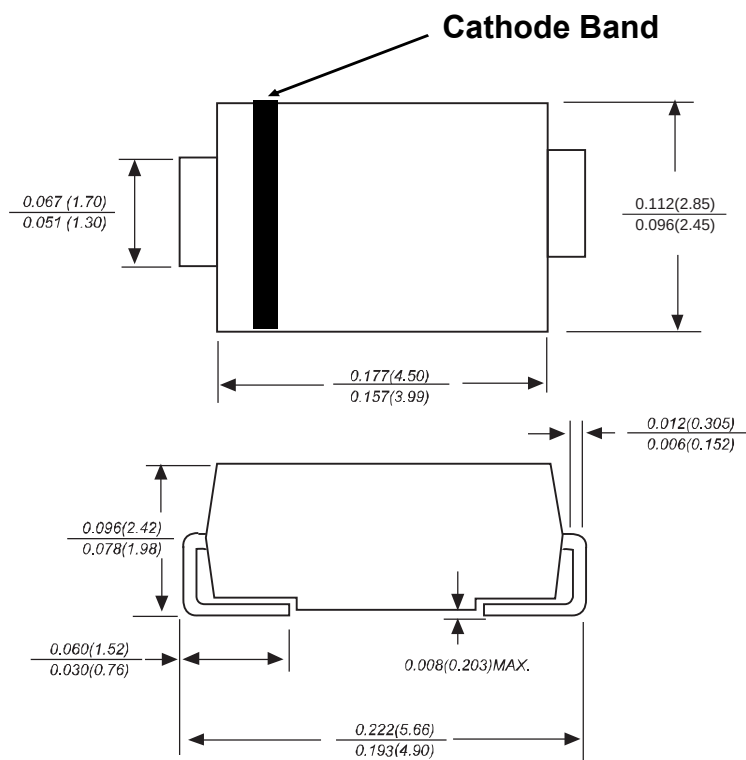


SS220

FIG.12: TYPICAL REVERSE CHARACTERISTICS

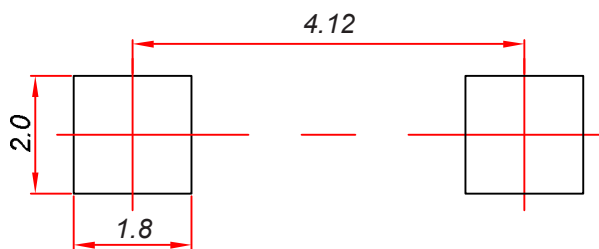


## SMAG Package Outline Dimensions



Dimensions in inches and (millimeters)

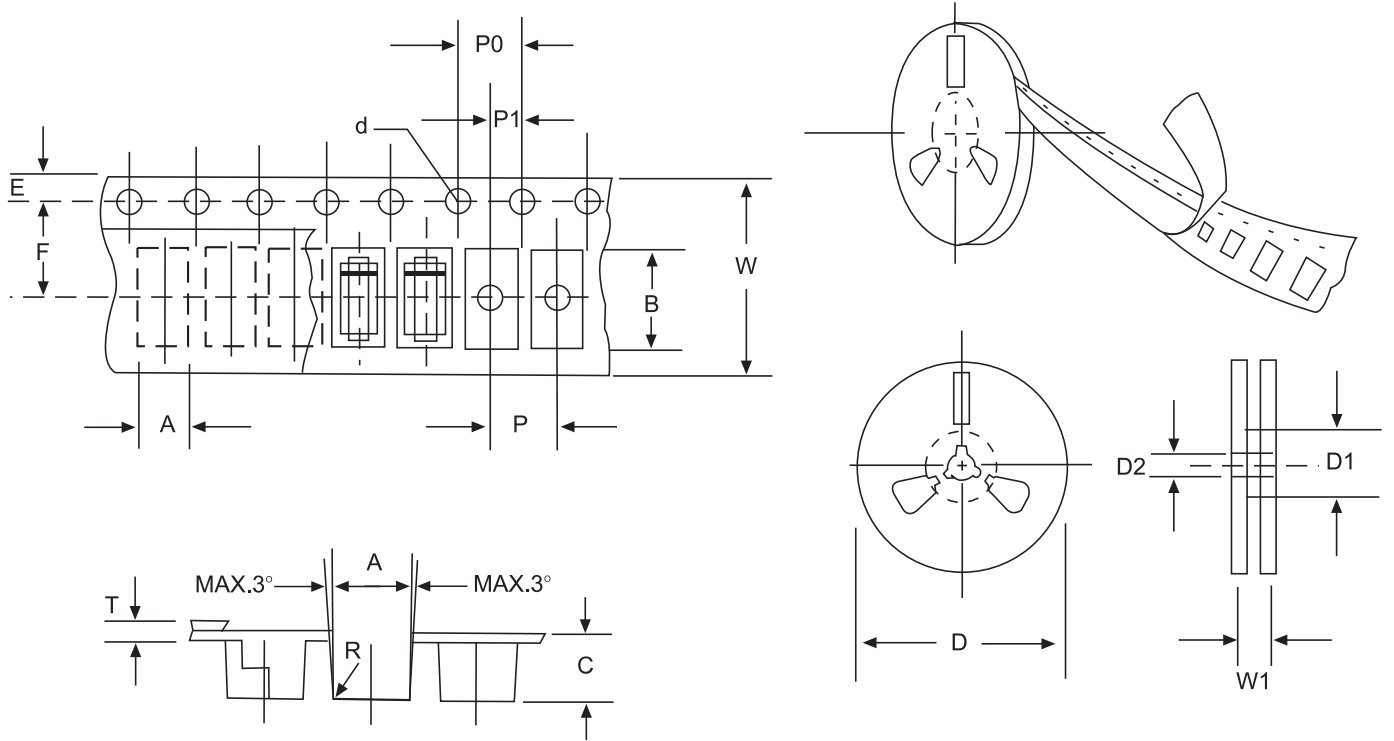
## SMAG Suggested Pad Layout



### Note:

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

## Reel Taping Specifications For Surface Mount Devices- SMAG



**FIG:CONFIGURATION OF SURFACE MOUNTED DEVICES 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)     |
| Strocket 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)    |
| Totall 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 packed in accordance with EIA standard RS-481-A and specification given above.