



## Features

- Average Forward Current:  $I_{F(AV)}=1A$
- Polarity: Color band denotes cathode



SMAF



## Package Marking and Ordering Information

| Product ID  | Pack | Marking | Qty(PCS) |
|-------------|------|---------|----------|
| US1AF-US1MF | SMAF | US1xF   | 10000    |

x: From A-M

## Maximum Ratings (Ta=25°C unless otherwise noted)

| Item   | Symbol                           | Unit | Test Conditions  | US1        |     |     |     |     |     |      |
|--|----------------------------------|------|--|------------|-----|-----|-----|-----|-----|------|
|  |                                  |      |  | AF         | BF  | DF  | GF  | JF  | KF  | MF   |
| Repetitive Peak Reverse Voltage                  | V <sub>RRM</sub>                 | V    |  | 50         | 100 | 200 | 400 | 600 | 800 | 1000 |
| Maximum RMS Voltage                              | V <sub>RMS</sub>                 | V    |  | 35         | 70  | 140 | 280 | 420 | 560 | 700  |
| Average Forward Current                          | I <sub>F(AV)</sub>               | A    | 60Hz Half-sine wave ,<br>Resistance load, T <sub>L</sub> =115° C | 1.0        |     |     |     |     |     |      |
| Surge(Non-repetitive)Forward Current             | I <sub>FSM</sub>                 | A    | 60Hz Half-sine wave ,<br>1 cycle, T <sub>a</sub> =25° C          | 30         |     |     |     |     |     |      |
| Operation Junction and Storage Temperature Range | T <sub>J</sub> ,T <sub>STG</sub> | °C   |  | -55 ~ +150 |     |     |     |     |     |      |

## Electrcal Characteristics (Ta=25°C unless otherwise specified)

| Item                          | Symbol                 | Unit    | Test Condition   |                       | US1 |    |    |     |     |    |
|-------------------------------|------------------------|---------|--|-----------------------|-----|----|----|-----|-----|----|
|                               |                        |         |  |                       | AF  | BF | DF | GF  | JF  | KF |
| Peak Forward Voltage          | V <sub>F</sub>         | V       | I <sub>F</sub> =1.0A   |                       | 1.0 |    |    | 1.3 | 1.7 |    |
| Maximum reverse recovery time | t <sub>rr</sub>        | ns      | I <sub>F</sub> =0.5A,I <sub>R</sub> =1.0A,I <sub>rr</sub> =0.25A |                       | 50  |    |    | 75  |     |    |
| Peak Reverse Current          | I <sub>RRM1</sub>      | μA      | V <sub>RM</sub> =V <sub>RRM</sub>                                | T <sub>a</sub> =25° C | 5   |    |    |     |     |    |
|                               | T <sub>a</sub> =125° C |         |  | 100                   |     |    |    |     |     |    |
| Thermal Resistance(Typical)   | R <sub>θJ-A</sub>      | ° C / W | Between junction and ambient                                     |                       | 75  |    |    |     |     |    |
|                               | R <sub>θJ-L</sub>      |         | Between junction and terminal                                    |                       | 27  |    |    |     |     |    |

## Notes:

Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas



## Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

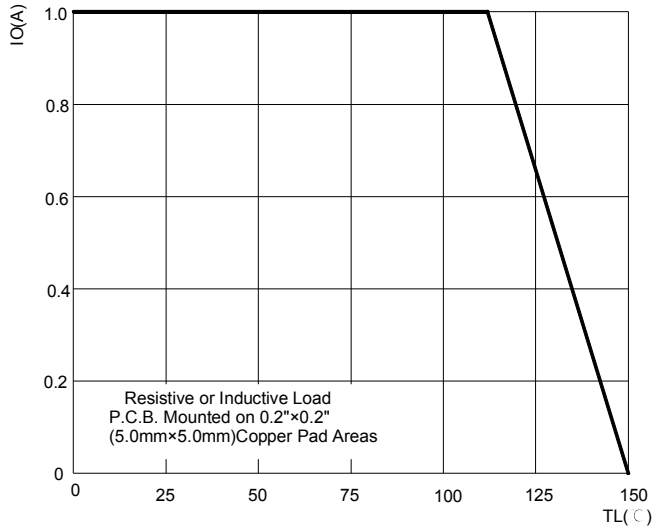


FIG.2: MAXIMUM NON-REPETITIVE FORWARD URGE CURRENT

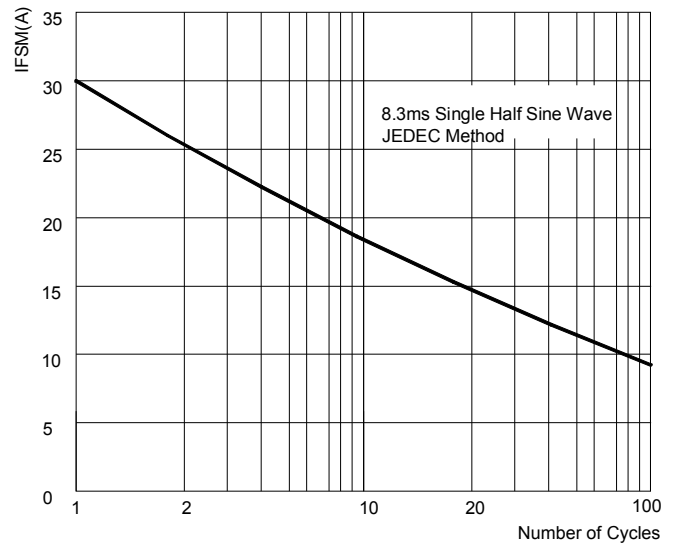


FIG.3: TYPICAL FORWARD CHARACTERISTICS

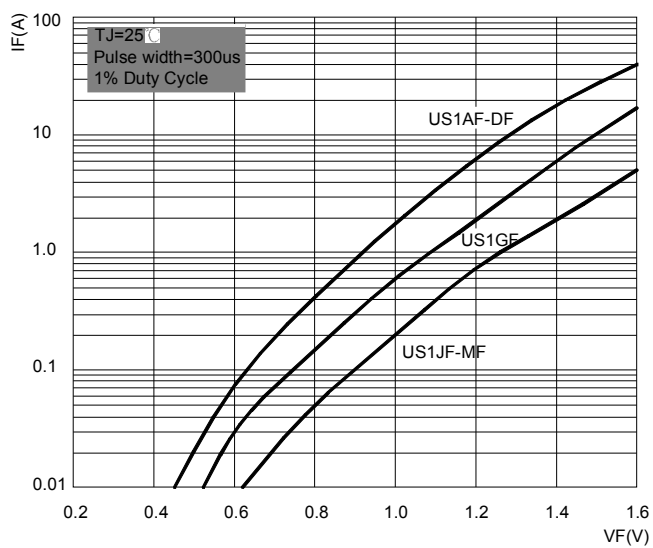


FIG.4: TYPICAL REVERSE CHARACTERISTICS

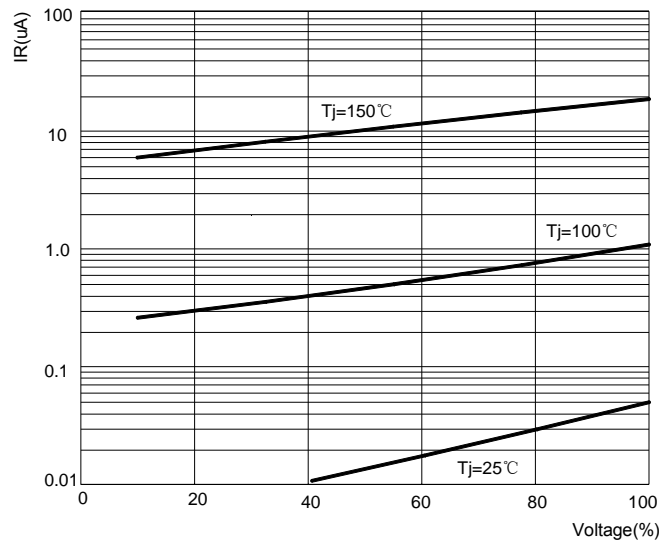
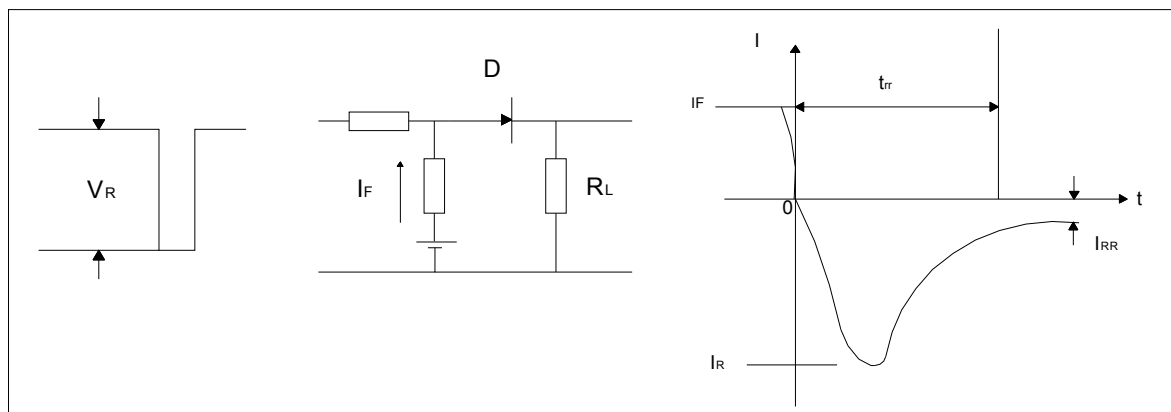
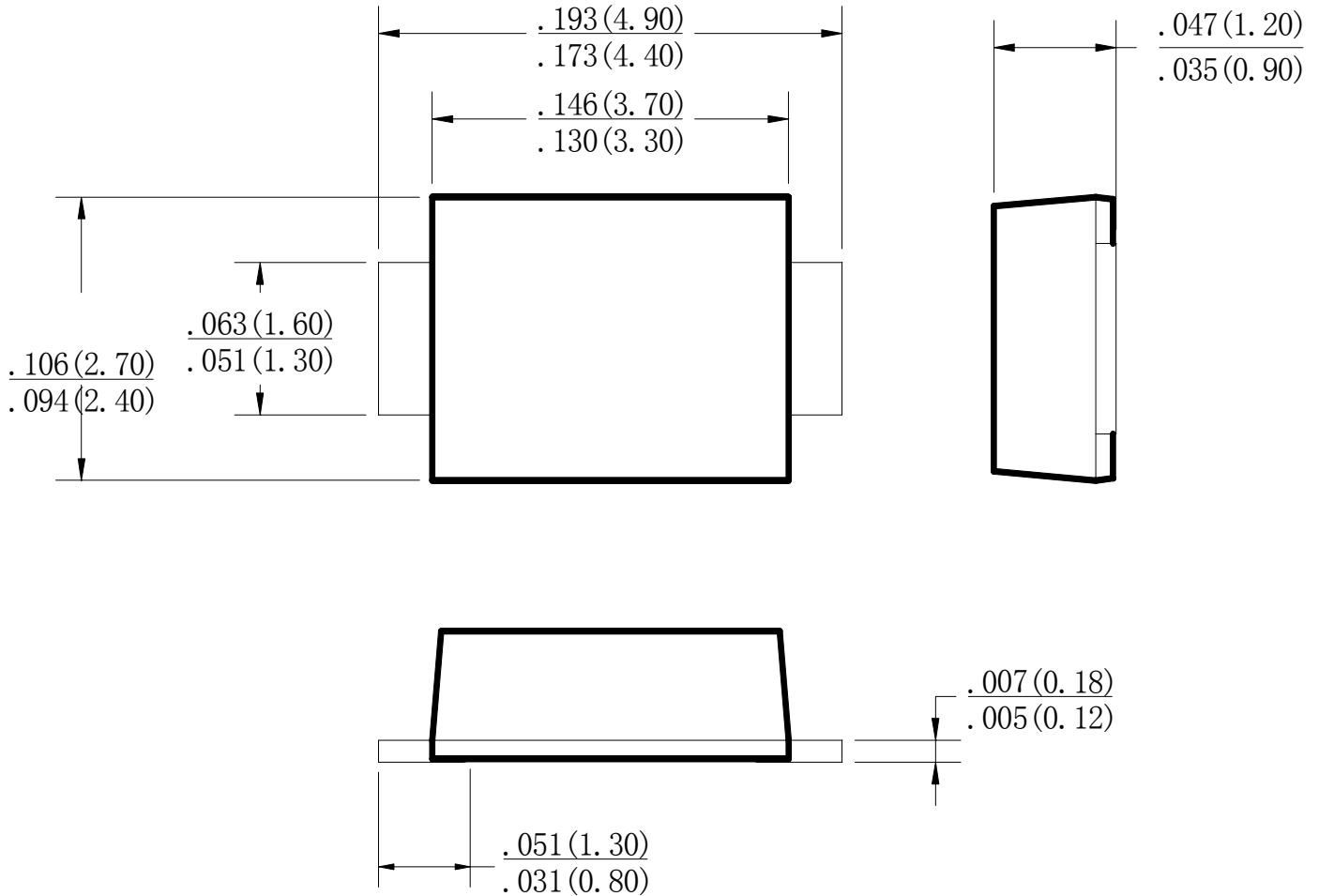


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time





## SMAF Package Outline Dimensions



Dimensions in inches and (millimeters)



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