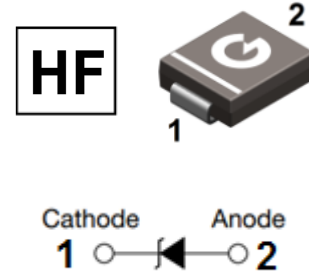


## Fast Recovery Rectifier

## TRS3A - TRS3G

### Features

- Low forward voltage drop
- High forward surge current capability
- Low-profile SMD ideal for automated manufacturing
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards



### Mechanical Data

- Case: SMC molded plastic
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Solder plated; solderable per MIL- STD-202, Method 208
- Polarity: Color band denotes cathode end

### Maximum Ratings (@T<sub>A</sub> = 25°C unless otherwise specified)

| Parameter                                                  | Symbol             | TRS3A | TRS3B | TRS3D | TRS3G | Unit |
|------------------------------------------------------------|--------------------|-------|-------|-------|-------|------|
| Peak repetitive reverse voltage                            | V <sub>RRM</sub>   | 50    | 100   | 200   | 400   | V    |
| RMS reverse voltage                                        | V <sub>RMS</sub>   | 35    | 70    | 140   | 280   | V    |
| DC blocking voltage                                        | V <sub>DC</sub>    | 50    | 100   | 200   | 400   | V    |
| Average forward output current                             | I <sub>F(AV)</sub> | 3.0   |       |       |       | A    |
| Peak forward surge current,<br>8.3ms single half-sine-wave | I <sub>FSM</sub>   | 100   |       |       |       | A    |

### Thermal Characteristics

| Parameter                            | Symbol           | TRS3A      | TRS3B | TRS3D | TRS3G | Unit |
|--------------------------------------|------------------|------------|-------|-------|-------|------|
| Typical thermal resistance *1        | R <sub>θJA</sub> | 44         |       |       |       | °C/W |
|                                      | R <sub>θJC</sub> | 18         |       |       |       |      |
|                                      | R <sub>θJL</sub> | 13         |       |       |       |      |
| Operating junction temperature range | T <sub>J</sub>   | -55 ~ +150 |       |       |       | °C   |
| Storage temperature range            | T <sub>STG</sub> | -55 ~ +150 |       |       |       | °C   |

Note \*1: Device mounted on p.c.b. with 10 mm x 20 mm x 0.1mm copper pad area

## Fast Recovery Rectifier

## TRS3A - TRS3G

### Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

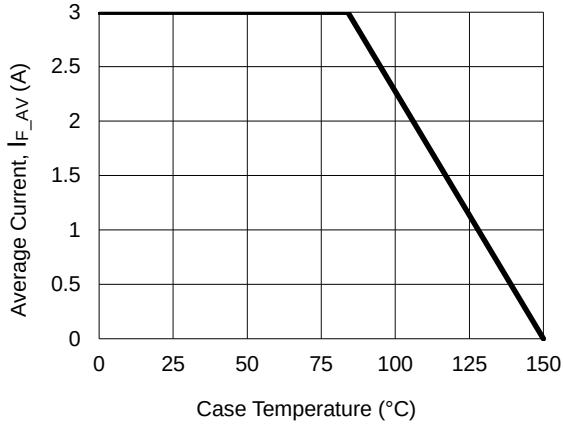
| Parameter                     | Symbol     | Test Condition                                                              |     | Typ. | Max.  | Unit          |
|-------------------------------|------------|-----------------------------------------------------------------------------|-----|------|-------|---------------|
| Reverse Breakdown Voltage     | $V_{(BR)}$ | $I_R = 2\mu\text{A}$ , TRS3A                                                | 50  | -    | -     | V             |
|                               |            | $I_R = 2\mu\text{A}$ , TRS3B                                                | 100 | -    | -     | V             |
|                               |            | $I_R = 2\mu\text{A}$ , TRS3D                                                | 200 | -    | -     | V             |
|                               |            | $I_R = 2\mu\text{A}$ , TRS3G                                                | 400 | -    | -     | V             |
| Instantaneous Forward Voltage | $V_F$      | $I_F = 3.0\text{A}$                                                         | -   | -    | 1.3   | V             |
| Reverse Current               | $I_R$      | Rated $V_R$ @ $T_A = 25^\circ\text{C}$                                      | -   | -    | 5.0   | $\mu\text{A}$ |
|                               |            | @ $T_A = 125^\circ\text{C}$                                                 | -   | -    | 200.0 |               |
| Reverse Recovery Time         | $t_{rr}$   | $I_F = 0.5\text{A}$ , $I_{RM} = 1\text{A}$ ,<br>$I_{R(REC)} = 0.25\text{A}$ | -   | -    | 150   | ns            |

# Fast Recovery Rectifier

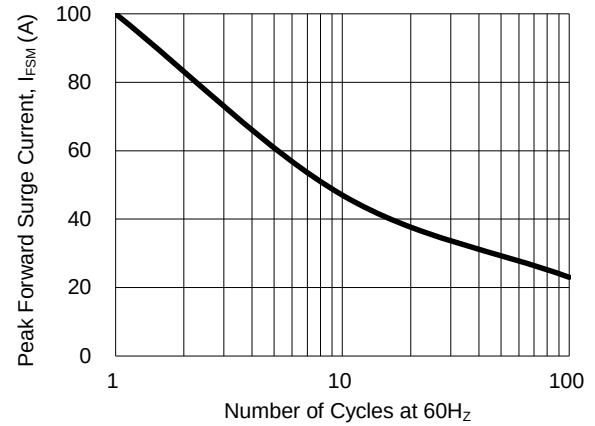
## TRS3A - TRS3G

### Ratings and Characteristic Curves (@ $T_A=25^{\circ}\text{C}$ unless otherwise noted)

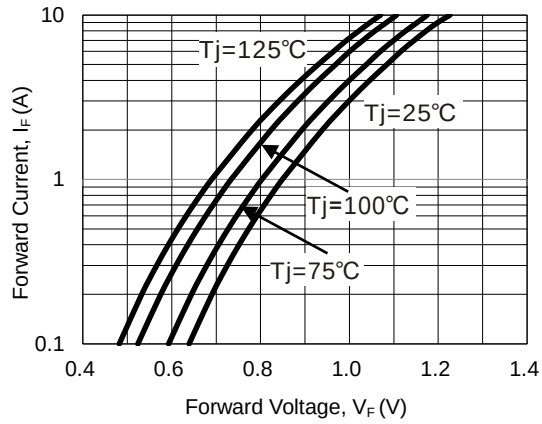
**Fig.1 Forward Current Derating Curve**



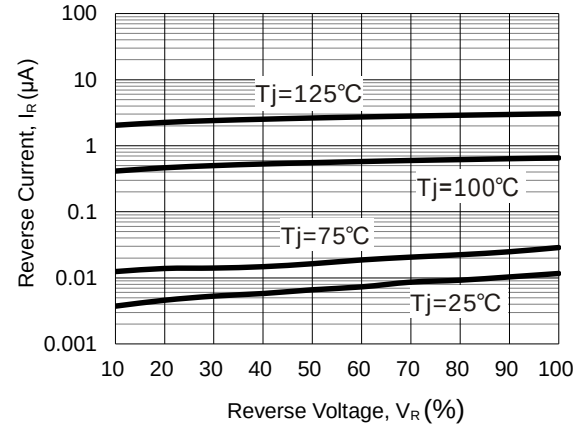
**Fig.2 Surge Current Derating Curve**



**Fig.3 Typical Forward Voltage Characteristics**



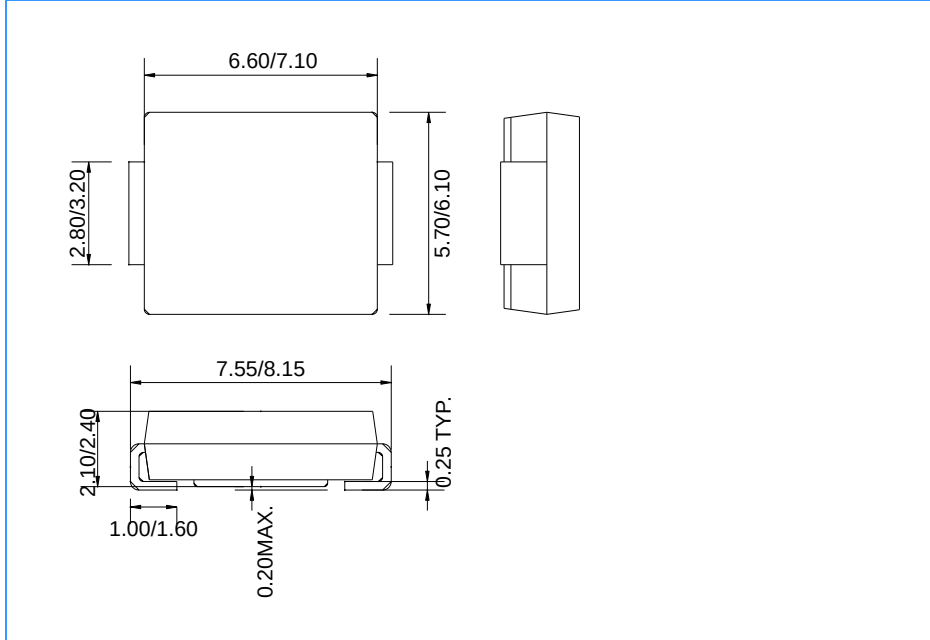
**Fig.4 Typical Reverse Characteristics**



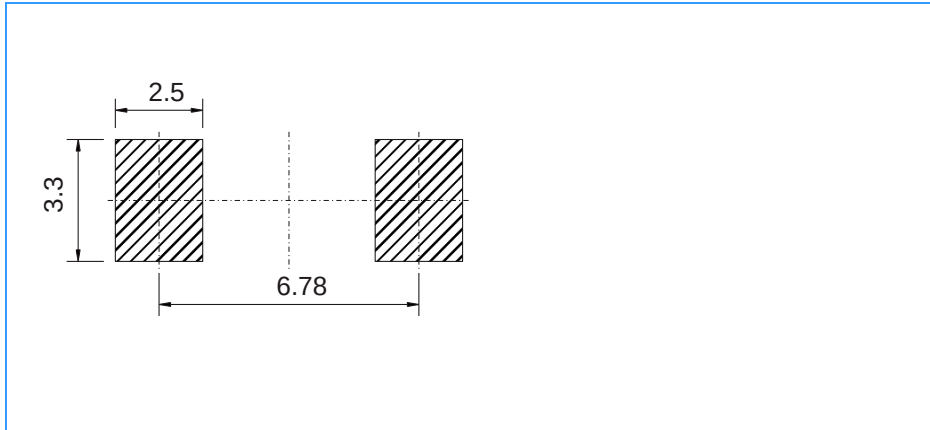
## Fast Recovery Rectifier

## TRS3A - TRS3G

### Package Outline Dimensions (unit: mm)



### Mounting Pad Layout (unit:mm)



### Ordering Information

| Part Number | Marking | Package | Shipping Quantity      |
|-------------|---------|---------|------------------------|
| TRS3A       | RS3A    | SMC     | 3000 pcs / Tape & Reel |
| TRS3B       | RS3B    | SMC     | 3000 pcs / Tape & Reel |
| TRS3D       | RS3D    | SMC     | 3000 pcs / Tape & Reel |
| TRS3G       | RS3G    | SMC     | 3000 pcs / Tape & Reel |