

## Fast Recovery Rectifier

## TRS3ACF - TRS3GCF

### 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: SMCF 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             | TRS3ACF | TRS3BCF | TRS3DCF | TRS3GCF | 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    |
| Maximum 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           | TRS3ACF    | TRS3BCF | TRS3DCF | TRS3GCF | Unit |
|--------------------------------------|------------------|------------|---------|---------|---------|------|
| Typical thermal resistance *1        | R <sub>ΘJA</sub> | 27         |         |         |         | °C/W |
|                                      | R <sub>ΘJC</sub> | 10         |         |         |         |      |
|                                      | R <sub>ΘJL</sub> | 4          |         |         |         |      |
| 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

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

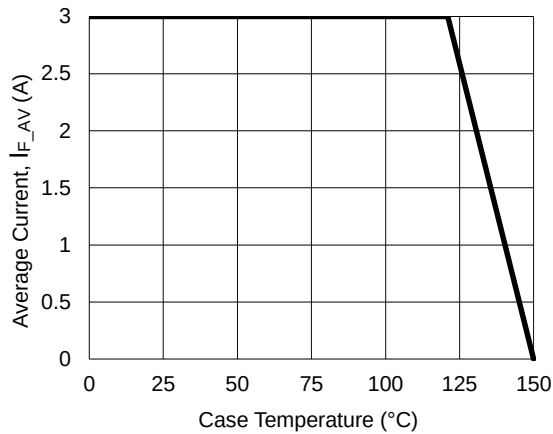
| Parameter                             | Symbol   | Test Condition                                                              |                             | Typ. | Max. | Unit          |
|---------------------------------------|----------|-----------------------------------------------------------------------------|-----------------------------|------|------|---------------|
| Maximum Instantaneous Forward Voltage | $V_F$    | $I_F = 3.0\text{A}$                                                         |                             | -    | 1.3  | V             |
| Maximum Reverse Current               | $I_R$    | Rated<br>$V_R$                                                              | @ $T_A = 25^\circ\text{C}$  | -    | 10   | $\mu\text{A}$ |
|                                       |          |                                                                             | @ $T_A = 125^\circ\text{C}$ | -    | 200  |               |
| Maximum 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

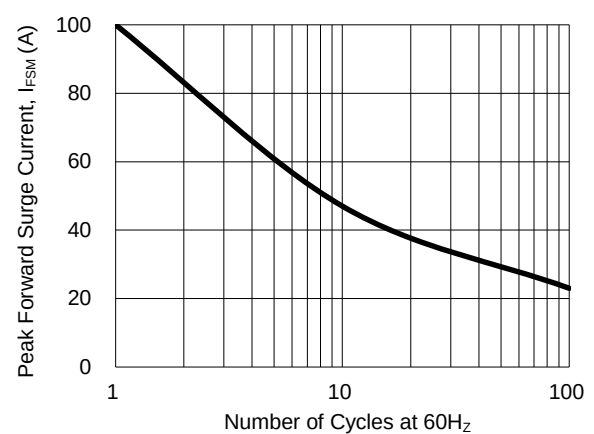
## TRS3ACF - TRS3GCF

### Ratings and Characteristic Curves (@T<sub>A</sub>=25°C unless otherwise noted)

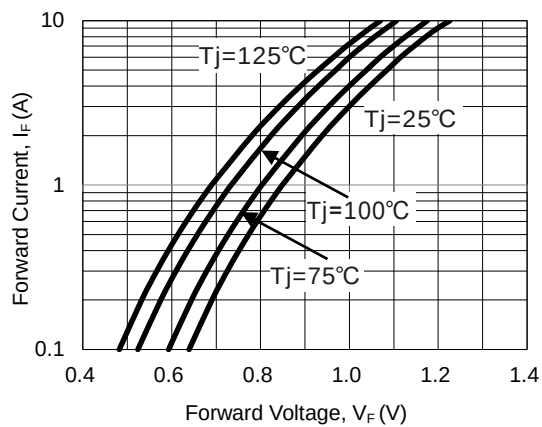
**Fig.1 Forward Current Derating Curve**



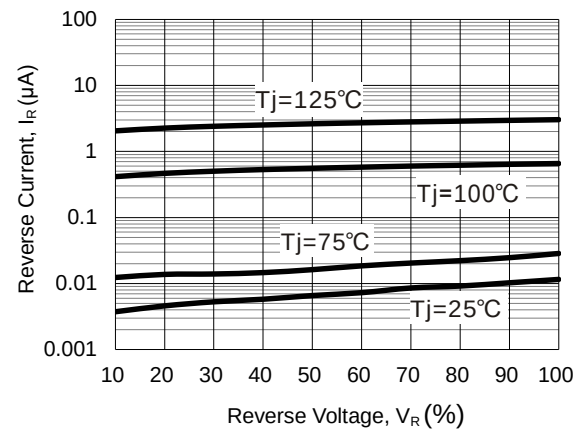
**Fig.2 Surge Current Derating Curve**



**Fig.3 Typical Forward Voltage Characteristics**



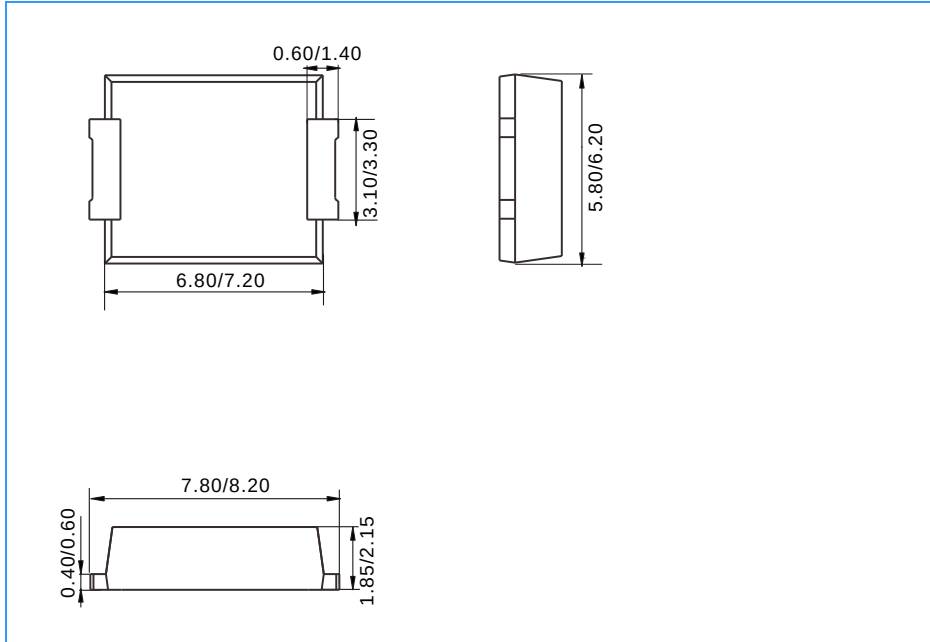
**Fig.4 Typical Reverse Characteristics**



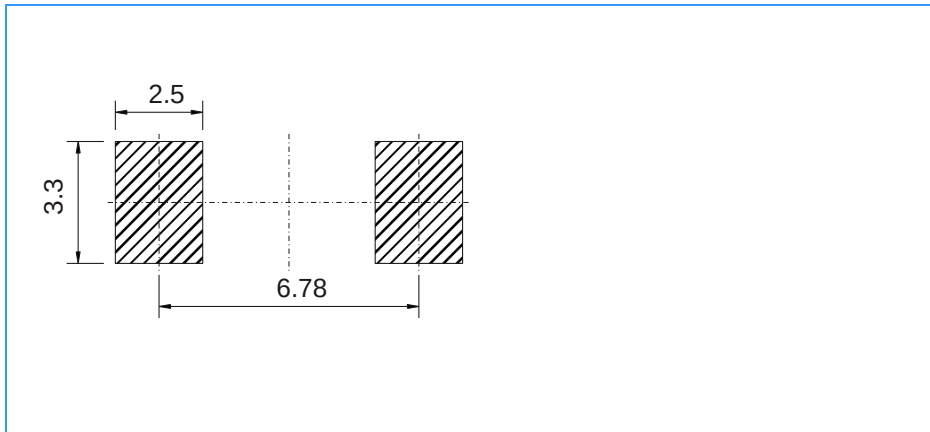
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## TRS3ACF - TRS3GCF

### Package Outline Dimensions (unit: mm)



### Mounting Pad Layout (unit:mm)



### Ordering Information

| Part Number | Marking | Package | Shipping Quantity  |
|-------------|---------|---------|--------------------|
| TRS3ACF     | RS3ACF  | SMCF    | 3000 / Tape & Reel |
| TRS3BCF     | RS3BCF  | SMCF    | 3000 / Tape & Reel |
| TRS3DCF     | RS3DCF  | SMCF    | 3000 / Tape & Reel |
| TRS3GCF     | RS3GCF  | SMCF    | 3000 / Tape & Reel |