

# GR3A THRU GR3M Fast Recovery Rectifier

### Features

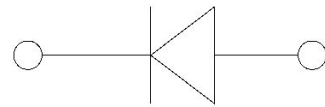
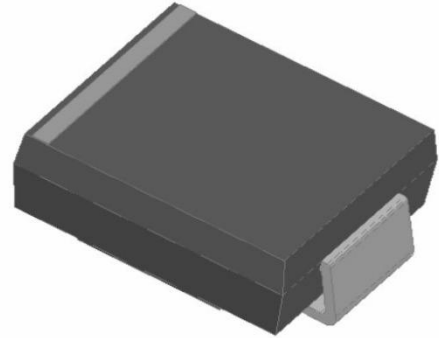
- High efficiency
- High current capability
- High reliability
- High surge current capability
- Low power loss
- Glass passivated chip junction
- Solder dip 265 °C max. 10 s, per JESD 22-B106

### Typical Applications

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes for consumer, and telecommunication.

### Mechanical Data

- Package: SMC
- Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: Color band denotes cathode end



### ■ Maximum Ratings (Ta=25°C Unless otherwise specified)

| PARAMETER   | Symbol            | Unit             | GR3        |     |     |     |     |     |      |
|---|-------------------|------------------|------------|-----|-----|-----|-----|-----|------|
|   |                   |                  | A          | B   | D   | G   | J   | K   | M    |
| Maximum 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  |
| Maximum DC blocking Voltage   | V <sub>DC</sub>   | V                | 50         | 100 | 200 | 400 | 600 | 800 | 1000 |
| Average Forward Current<br>@Half-sine wave, Resistance load, Tc(Fig.1)      | I <sub>o</sub>    | A                | 3.0        |     |     |     |     |     |      |
| Forward Surge Current (Non-repetitive)<br>@60HZ sine wave, 1 cycle, Ta=25°C | I <sub>FSM</sub>  | A                | 100        |     |     |     |     |     |      |
| Current squared time<br>@1ms≤t8.3≤ms Ta=25°C, Rating of per diode           | I <sup>2</sup> t  | A <sup>2</sup> s | 41.5       |     |     |     |     |     |      |
| Thermal Resistance(Typical)<br>@Between junction and ambient                | R <sub>θJ-A</sub> | °C/W             | 50         |     |     |     |     |     |      |
| Storage Temperature   | T <sub>stg</sub>  | °C               | -55 ~ +150 |     |     |     |     |     |      |
| Junction Temperature  | T <sub>j</sub>    | °C               | -55 ~ +150 |     |     |     |     |     |      |

### ■ Electrical Characteristics (Ta=25°C Unless otherwise specified)

| PARAMETER                     | Symbol           | Unit | Conditions  | GR3 |   |   |     |     |   |
|-------------------------------|------------------|------|---|-----|---|---|-----|-----|---|
|                               |                  |      |   | A   | B | D | G   | J   | K |
| Peak Forward Voltage          | V <sub>FM</sub>  | V    | I <sub>F</sub> = 3.0A   | 1.3 |   |   |     |     |   |
| Peak Reverse Current          | I <sub>RRM</sub> | μA   | VR = V <sub>DC</sub> @Ta=25°C   | 10  |   |   |     |     |   |
|                               |                  |      | VR = V <sub>DC</sub> @Ta=125°C  | 250 |   |   |     |     |   |
| Maximum reverse recovery time | T <sub>rr</sub>  | ns   | I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A,<br>I <sub>rr</sub> =0.25A | 150 |   |   | 250 | 500 |   |



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## ■ Characteristics (Typical)

FIG.1: Io-TL Curve

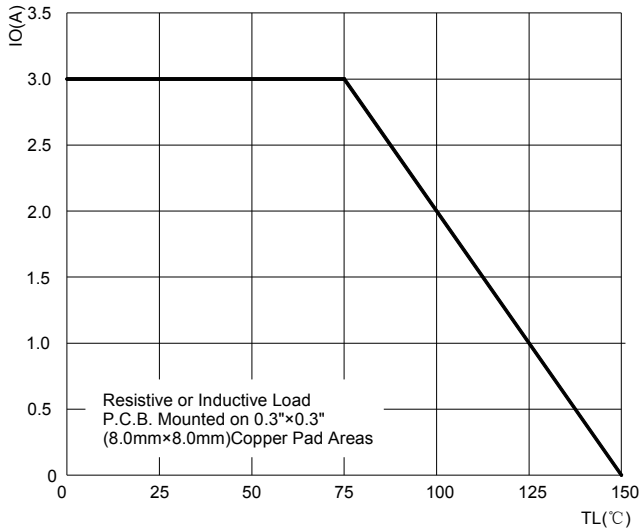


FIG.2: Forward Surge Current Capability

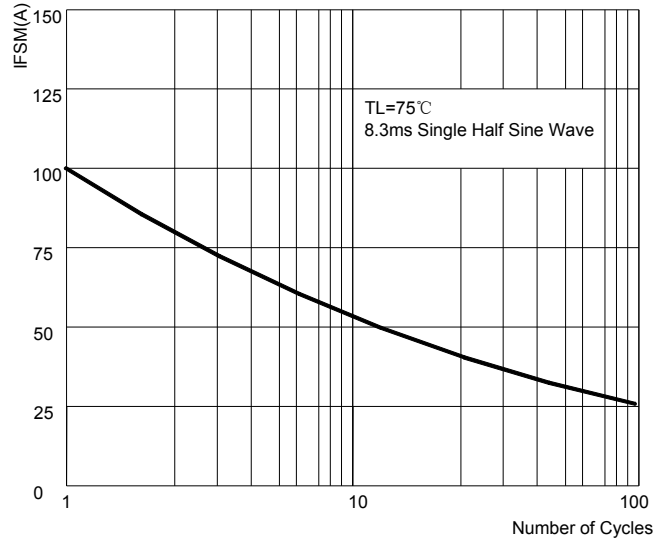


FIG.3: Forward Voltage

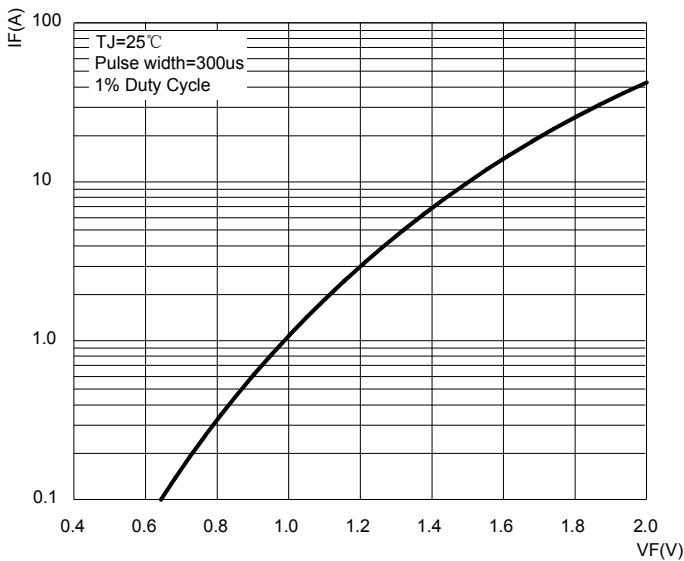


FIG.4: Typical Reverse Characteristics

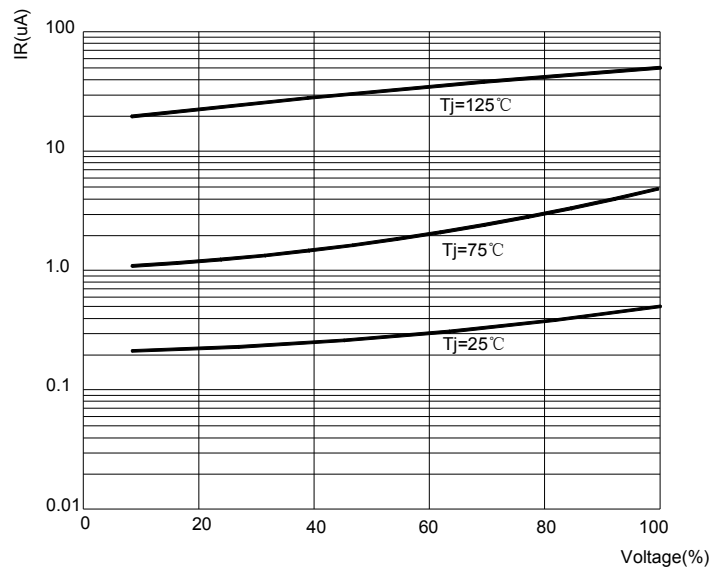
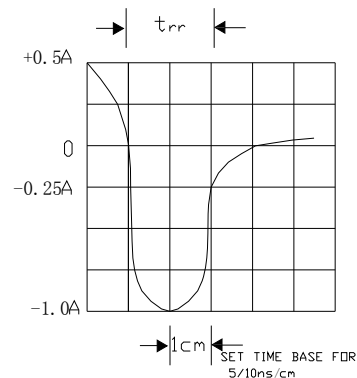
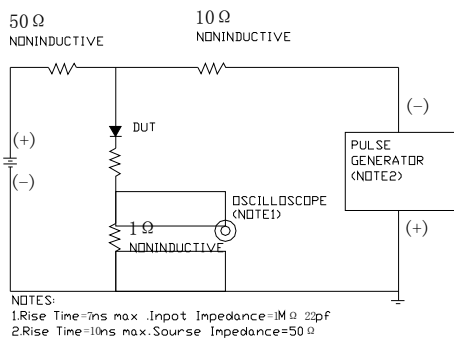


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

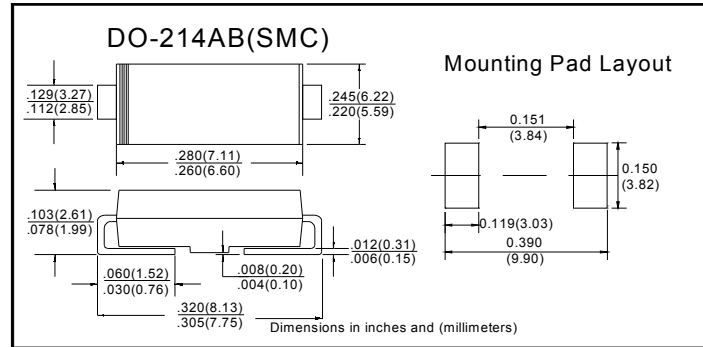


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## ■ Ordering Information (Example)

| PREFERED       | PACKAGE CODE | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|----------------|--------------|----------------------|-------------------------|----------------------------|---------------|
| GR3A THRU GR3M | SMC          | 3000                 | 6000                    | 42000                      | 13"reel       |

## ■ Outline Dimensions



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