

## Surface Mount General Purpose Rectifier

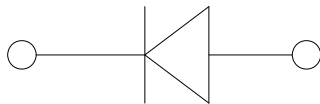


### Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

### Typical Applications

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



### Mechanical Data

- **Package:** DO-214AA (SMB)  
Molding compound meets UL 94 V-0 flammability rating, -compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

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

| PARAMETER                                                                        | SYMBOL    | UNIT             | GS2A       | GS2B | GS2D | GS2G | GS2J | GS2K | GS2M |
|----------------------------------------------------------------------------------|-----------|------------------|------------|------|------|------|------|------|------|
| Device marking code                                                              |           |                  | GS2A       | GS2B | GS2D | GS2G | GS2J | GS2K | GS2M |
| Maximum Repetitive peak reverse voltage                                          | $V_{RRM}$ | V                | 50         | 100  | 200  | 400  | 600  | 800  | 1000 |
| Maximum RMS Voltage                                                              | $V_{RMS}$ | V                | 35         | 70   | 140  | 280  | 420  | 560  | 700  |
| Maximum DC Blocking Voltage                                                      | $V_{DC}$  | V                | 50         | 100  | 200  | 400  | 600  | 800  | 1000 |
| Average rectified output current<br>@60Hz sine wave, resistance load, TL (Fig.1) | $I_O$     | A                | 2.0        |      |      |      |      |      |      |
| Forward Surge Current (Non-repetitive)<br>@60Hz Half-sine wave, 1 cycle, Tj=25°C | $I_{FSM}$ | A                | 50         |      |      |      |      |      |      |
| Forward Surge Current (Non-repetitive)<br>@1ms, square wave, 1 cycle, Tj=25°C    |           |                  | 100        |      |      |      |      |      |      |
| Current squared time<br>@1ms≤t≤8.3ms Tj=25°C                                     | $I^2t$    | A <sup>2</sup> s | 10.735     |      |      |      |      |      |      |
| Storage temperature                                                              | $T_{stg}$ | °C               | -55 ~ +150 |      |      |      |      |      |      |
| Junction temperature                                                             | $T_j$     | °C               | -55 ~ +150 |      |      |      |      |      |      |

## GS2A THRU GS2M

### ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                                               | SYMBOL         | UNIT | TEST CONDITIONS                                           | GS2A | GS2B | GS2D | GS2G | GS2J | GS2K | GS2M |
|---------------------------------------------------------|----------------|------|-----------------------------------------------------------|------|------|------|------|------|------|------|
| Maximum instantaneous forward voltage                   | V <sub>F</sub> | V    | I <sub>FM</sub> =2.0A                                     | 1.1  |      |      |      |      |      |      |
| Maximum DC reverse current at rated DC blocking voltage | I <sub>R</sub> | μA   | T <sub>j</sub> =25°C                                      | 5.0  |      |      |      |      |      |      |
|                                                         |                |      | T <sub>j</sub> =125°C                                     | 100  |      |      |      |      |      |      |
| Typical junction capacitance                            | C <sub>j</sub> | pF   | Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C | 12   |      |      |      |      |      |      |

### ■ Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                  | SYMBOL                           | UNIT | GS2A | GS2B | GS2D | GS2G | GS2J | GS2K | GS2M |
|----------------------------|----------------------------------|------|------|------|------|------|------|------|------|
| Typical Thermal Resistance | R <sub>θJ-A</sub> <sup>(1)</sup> | °C/W | 60   |      |      |      |      |      |      |
|                            | R <sub>θJ-L</sub> <sup>(1)</sup> |      | 20   |      |      |      |      |      |      |
|                            | R <sub>θJ-C</sub> <sup>(1)</sup> |      | 15   |      |      |      |      |      |      |

Note:  
(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas

### ■ Characteristics (Typical)

FIG.1: I<sub>o</sub>-T<sub>L</sub> Curve

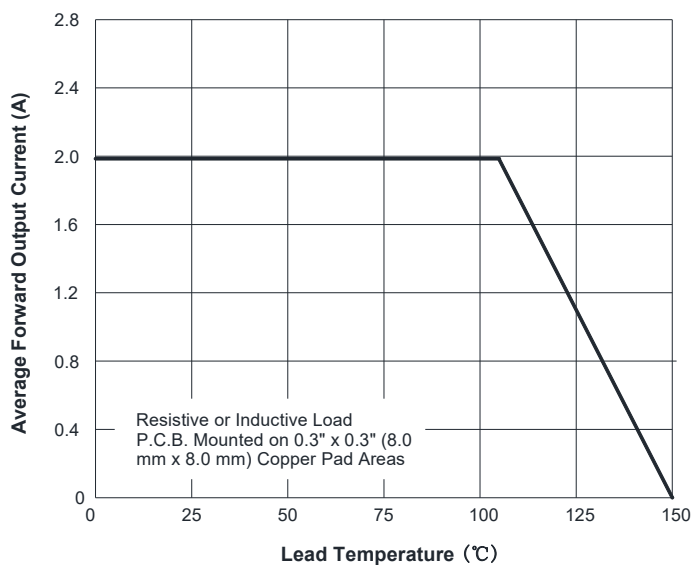
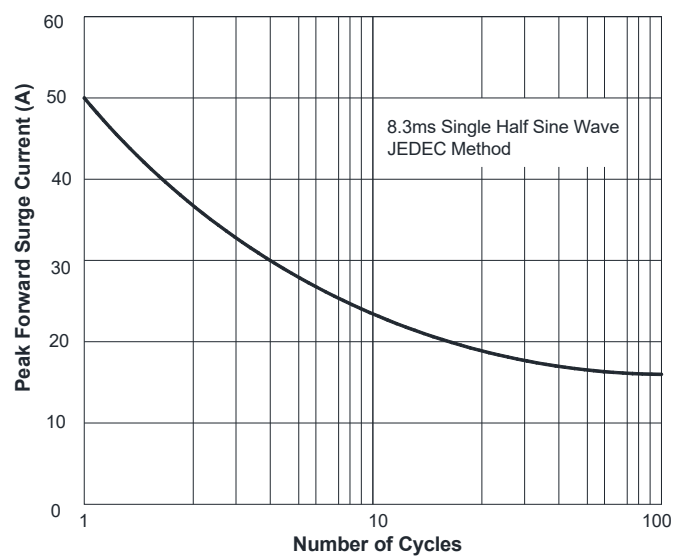


FIG.2: Forward Surge Current Capability



## GS2A THRU GS2M

FIG.3: Typical Forward Voltage

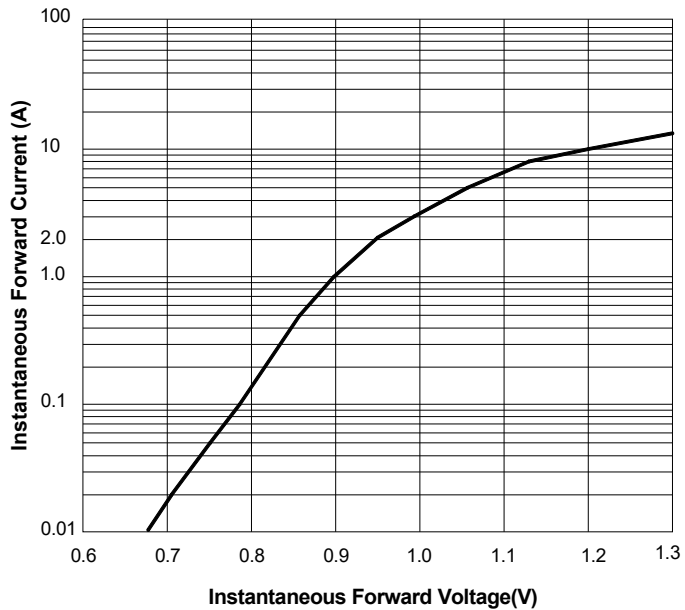
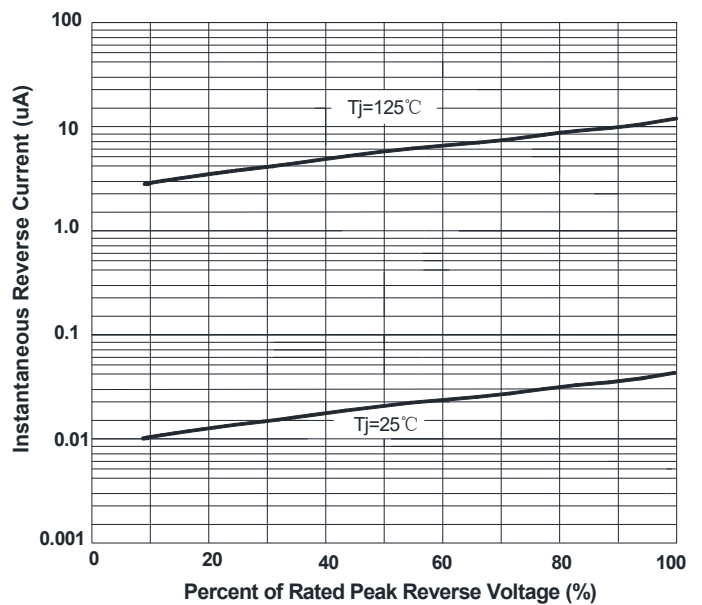


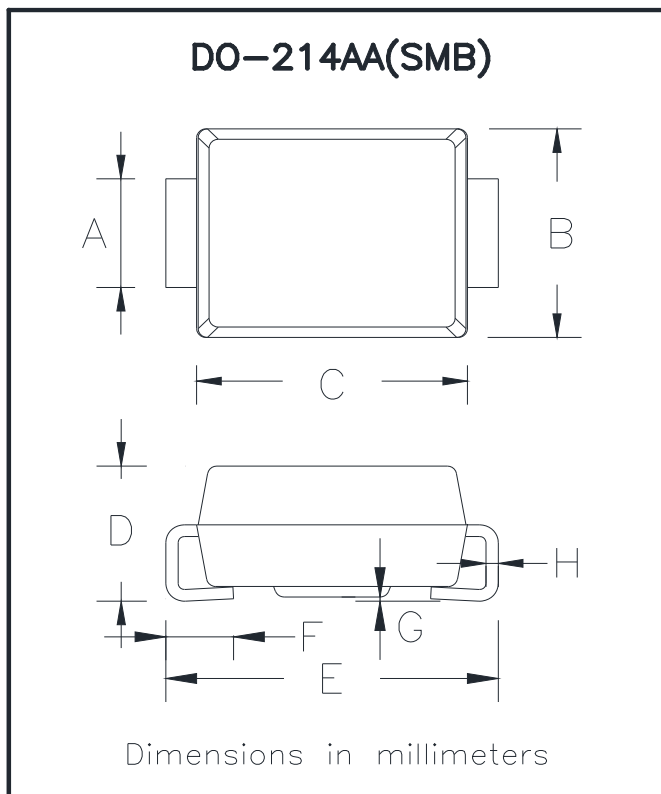
FIG.4: Typical Reverse Characteristics



### ■ Ordering Information (Example)

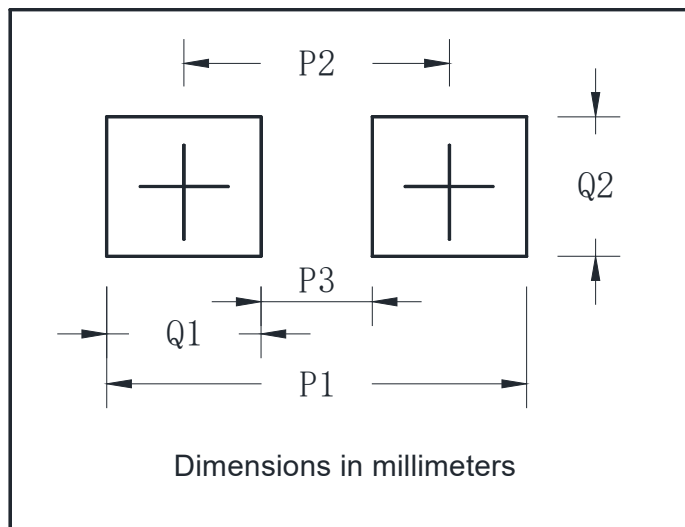
| PREFERRED P/N | PACKING CODE | UNIT WEIGHT(g)    | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| GS2A-GS2M     | F1           | Approximate 0.096 | 3000                 | /                       | 48000                      | 13" reel      |
| GS2A-GS2M     | F2           | Approximate 0.096 | 750                  | 6000                    | 24000                      | 7" reel       |
| GS2A-GS2M     | F3           | Approximate 0.096 | 500                  | 4000                    | 16000                      | 7" reel       |

### ■ Outline Dimensions



| DO-214AA(SMB) |      |      |
|---------------|------|------|
| Dim           | Min  | Max  |
| A             | 1.85 | 2.15 |
| B             | 3.30 | 3.94 |
| C             | 4.05 | 4.75 |
| D             | 1.99 | 2.61 |
| E             | 5.21 | 5.59 |
| F             | 0.90 | 1.41 |
| G             | 0.05 | 0.20 |
| H             | 0.15 | 0.31 |

■ Suggested pad layout



| DO-214AA(SMB) |             |
|---------------|-------------|
| Dim           | Millimeters |
| P1            | 6.8         |
| P2            | 4.3         |
| P3            | 1.8         |
| Q1            | 2.5         |
| Q2            | 2.3         |

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