

## Surface Mount General Purpose Rectifier



### Features

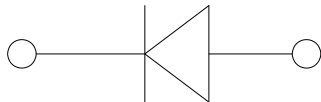
- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

### Typical Applications

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

### Mechanical Data

- Package: DO-214AB (SMC)
- 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: Color band denotes the cathode end



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

| PARAMETER                                                                        | SYMBOL    | UNIT             | GS10A      | GS10B | GS10D | GS10G | GS10J | GS10K | GS10M |
|----------------------------------------------------------------------------------|-----------|------------------|------------|-------|-------|-------|-------|-------|-------|
| Device marking code                                                              |           |                  | GS10A      | GS10B | GS10D | GS10G | GS10J | GS10K | GS10M |
| 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                | 10         |       |       |       |       |       |       |
| Forward Surge Current (Non-repetitive)<br>@60Hz Half-sine wave, 1 cycle, Tj=25°C | $I_{FSM}$ | A                | 200        |       |       |       |       |       |       |
| Forward Surge Current (Non-repetitive)<br>@1ms, square wave, 1 cycle, Tj=25°C    |           |                  | 400        |       |       |       |       |       |       |
| Current squared time<br>@1ms≤t≤8.3ms Tj=25°C                                     | $I^2t$    | A <sup>2</sup> s | 166        |       |       |       |       |       |       |
| Storage Temperature                                                              | $T_{stg}$ | °C               | -55 ~ +150 |       |       |       |       |       |       |
| Junction Temperature                                                             | $T_j$     | °C               | -55 ~ +150 |       |       |       |       |       |       |

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

| PARAMETER                                               | SYMBOL | UNIT | TEST CONDITIONS                                           | GS10A | GS10B | GS10D | GS10G | GS10J | GS10K | GS10M |
|---------------------------------------------------------|--------|------|-----------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|
| Maximum instantaneous forward voltage                   | $V_F$  | V    | $I_{FM}=10A$                                              | 1.1   |       |       |       |       |       |       |
| Maximum DC reverse current at rated DC blocking voltage | $I_R$  | μA   | Tj=25°C                                                   | 5     |       |       |       |       |       |       |
|                                                         |        |      | Tj=125°C                                                  | 100   |       |       |       |       |       |       |
| Typical junction capacitance                            | $C_j$  | pF   | Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C | 55    |       |       |       |       |       |       |

# GS10A THRU GS10M

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

| PARAMETER                  | SYMBOL                | UNIT | GS10A | GS10B | GS10D | GS10G | GS10J | GS10K | GS10M |
|----------------------------|-----------------------|------|-------|-------|-------|-------|-------|-------|-------|
| Typical Thermal resistance | R <sub>θJ-A</sub> (1) | °C/W | 50    |       |       |       |       |       |       |
|                            | R <sub>θJ-L</sub> (1) |      | 10    |       |       |       |       |       |       |
|                            | R <sub>θJ-C</sub> (1) |      | 8     |       |       |       |       |       |       |

Note(1)

Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.6" x 0.6" (16 mm x 16 mm) copper pad areas

## ■ Ordering Information (Example)

| PREFERRED P/N | PACKAGE CODE | UNIT WEIGHT(g)    | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| GS10A~GS10M   | F1           | Approximate 0.261 | 3000                 | /                       | 42000                      | 13" reel      |

## ■ Characteristics(Typical)

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

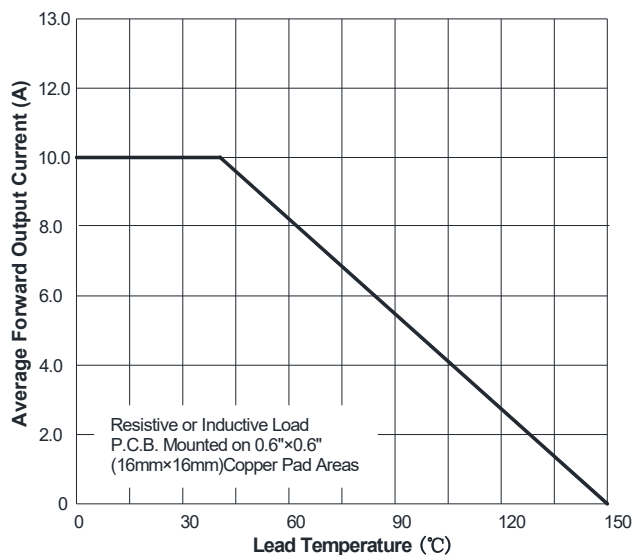


FIG.2: Forward Surge Current Capability

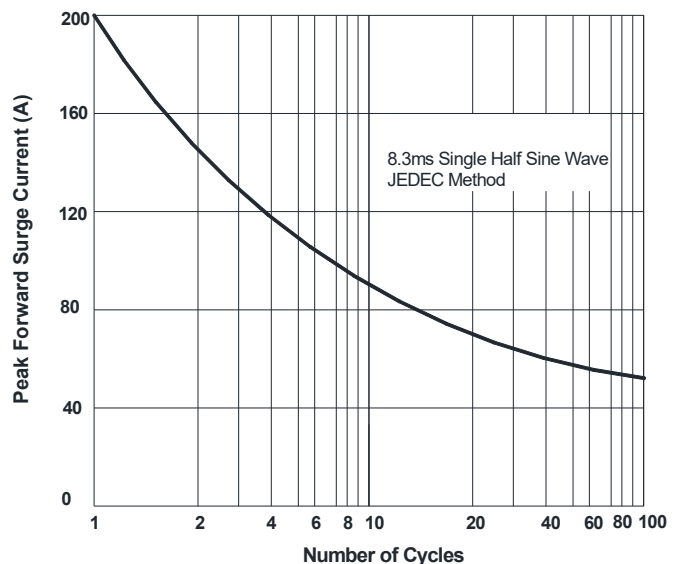


FIG.3: Typical Forward Voltage

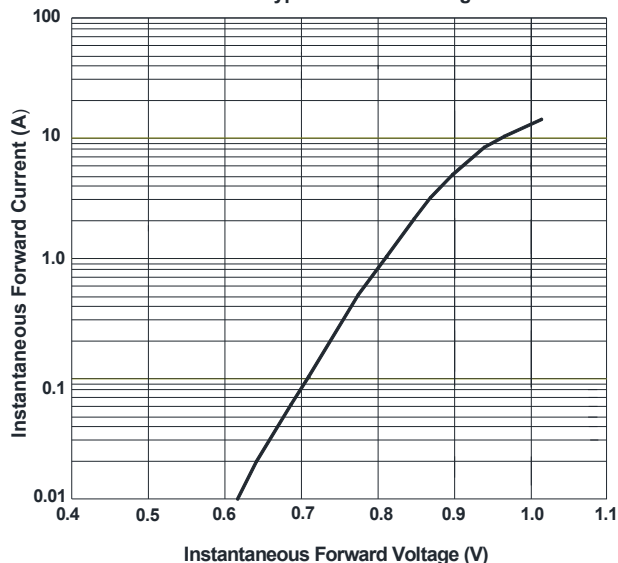
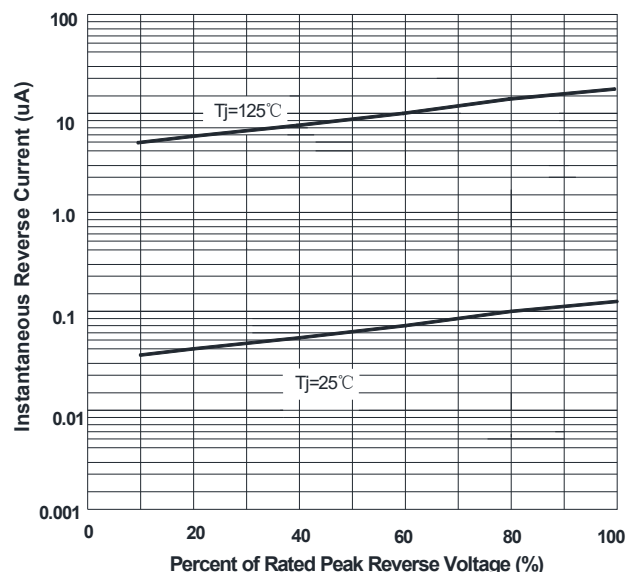
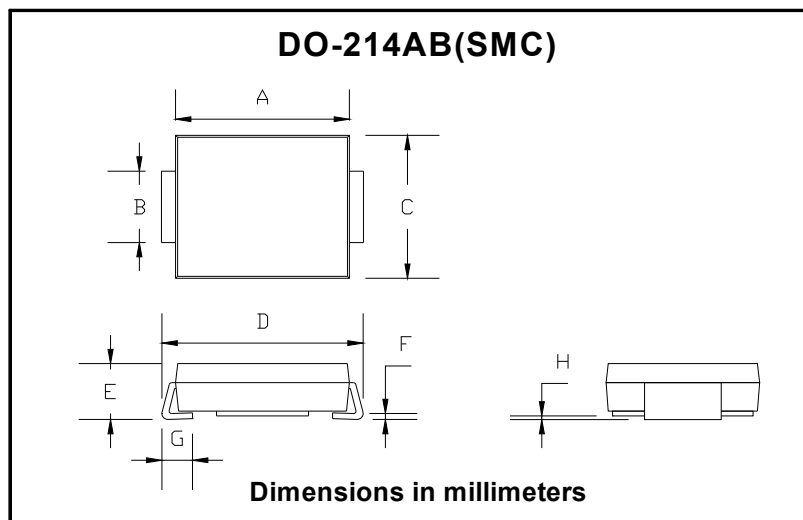


FIG.4: Typical Reverse Characteristics

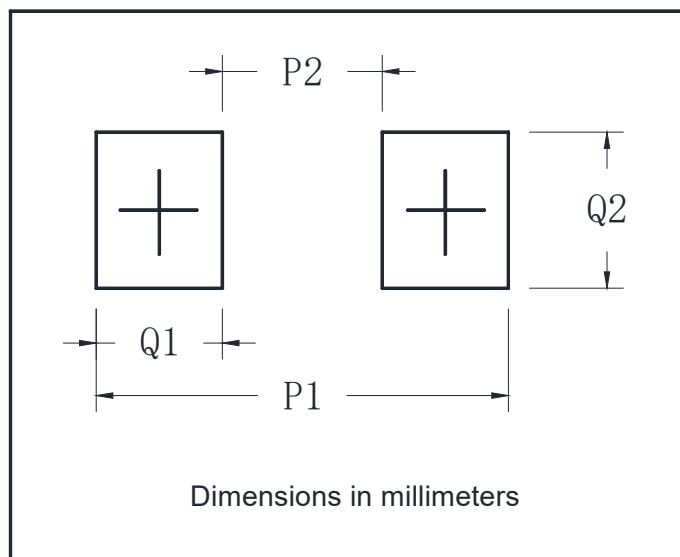


## ■ Outline Dimensions



| DO-214AB (SMC) |      |      |
|----------------|------|------|
| Dim            | Min  | Max  |
| A              | 6.60 | 7.11 |
| B              | 2.85 | 3.27 |
| C              | 5.59 | 6.22 |
| D              | 7.75 | 8.13 |
| E              | 1.99 | 2.61 |
| F              | 0.15 | 0.31 |
| G              | 0.76 | 1.52 |
| H              | 0.05 | 0.20 |

## ■ Suggested pad layout



| DO-214AB (SMC) |      |
|----------------|------|
| Dim            | Min  |
| P1             | 9.9  |
| P2             | 3.84 |
| Q1             | 3.03 |
| Q2             | 3.82 |

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