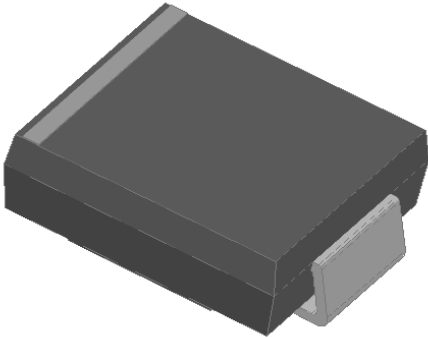


Surface Mount General Purpose Rectifier

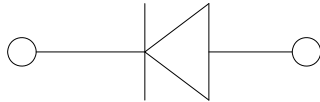


Features

- 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, RoHS-compliant, halogen-free
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: Color band denotes the cathode end

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

| PARAMETER | SYMBOL | UNIT | GS12M |
|---|------------------|------------------|------------|
| Device marking code | | | GS12M |
| Maximum Repetitive peak reverse voltage | V _{RRM} | V | 1000 |
| Maximum RMS Voltage | V _{RMS} | V | 700 |
| Maximum DC Blocking Voltage | V _{DC} | V | 1000 |
| Average Rectified Output Current @60Hz sine wave, Resistance load, TL (FIG.1) | I _o | A | 12 |
| Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, T _j =25°C | I _{FSM} | A | 200 |
| Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, T _j =25°C | | | 400 |
| Current squared time @1ms≤t≤8.3ms T _j =25°C | I ² t | A ² s | 166 |
| Storage Temperature | T _{stg} | °C | -55 ~ +150 |
| Junction Temperature | T _j | °C | -55 ~ +150 |

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

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | GS12M |
|---|----------------|------|---|-------|
| Maximum instantaneous forward voltage | V _F | V | I _{FM} =10A | 1.1 |
| Maximum DC reverse current at rated DC blocking voltage | I _R | μA | T _j =25°C | 5 |
| | | | T _j =125°C | 100 |
| Typical junction capacitance | C _j | pF | Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C | 55 |



GS12M

■ Thermal Characteristics (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | GS12M |
|----------------------------|-----------------------|------|-------|
| Typical Thermal resistance | R _{θJ-A} (1) | °C/W | 50 |
| | R _{θJ-L} (1) | | 10 |
| | R _{θJ-C} (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 |
|---------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| GS12M | F1 | Approximate 0.261 | 3000 | / | 42000 | 13" reel |

■ Characteristics(Typical)

FIG.1: I_o-T_L Curve

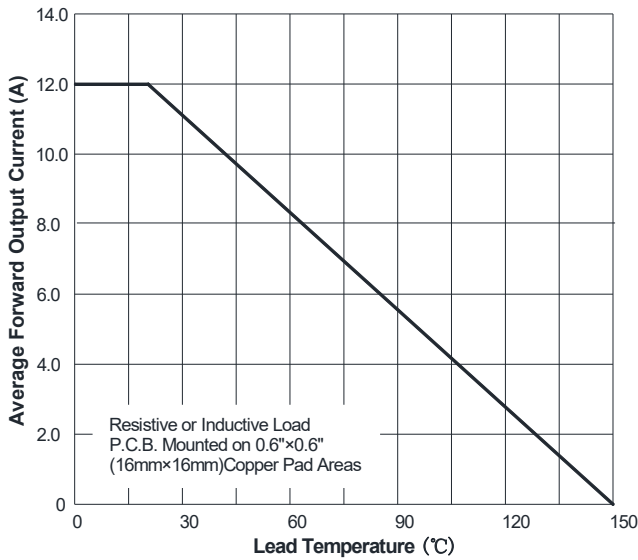


FIG.2: Forward Surge Current Capability

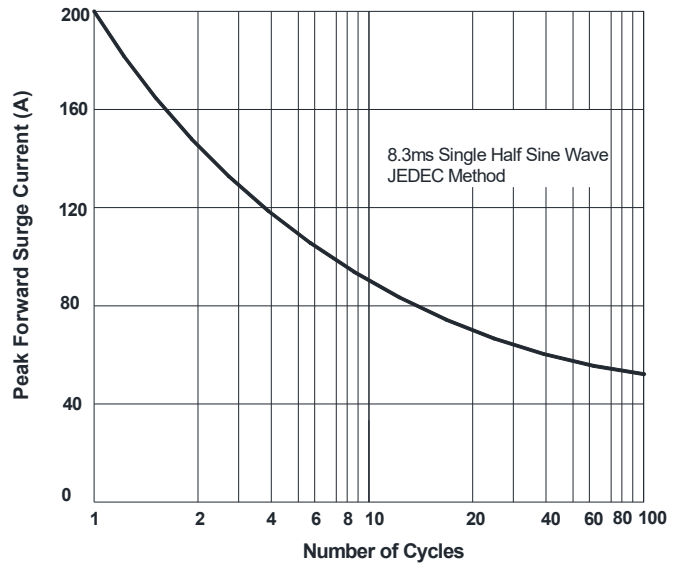


FIG.3: Typical Forward Voltage

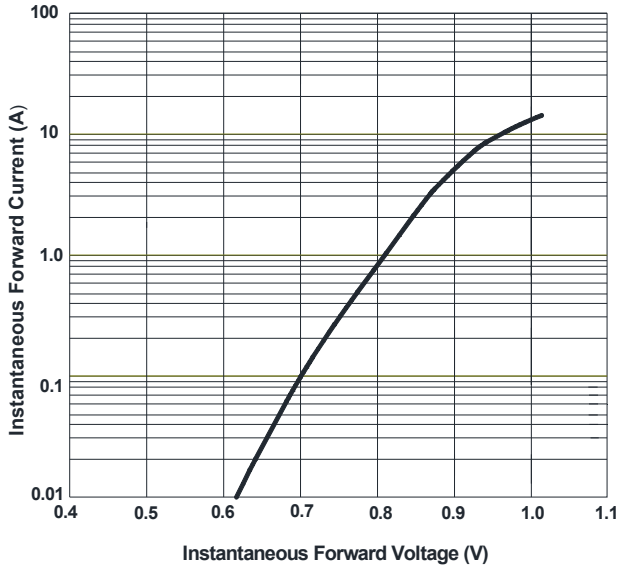
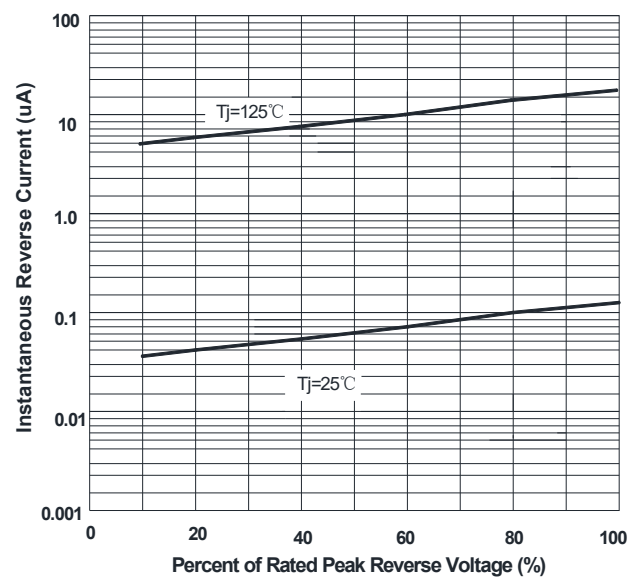
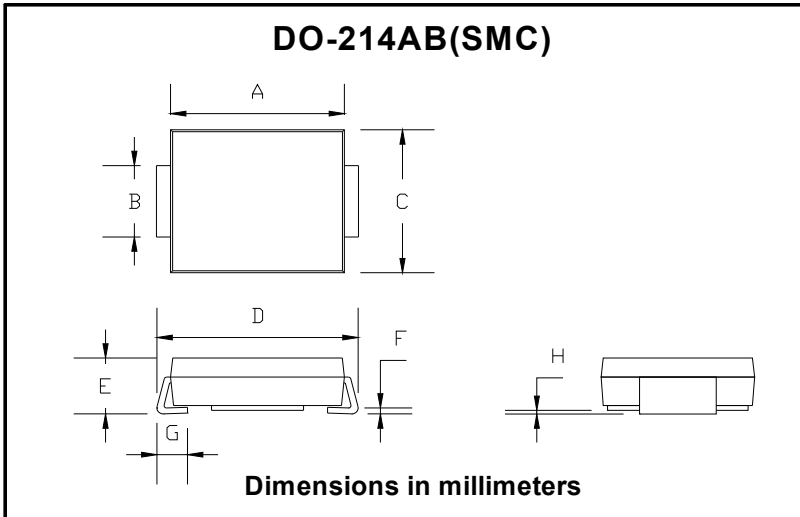


FIG.4: Typical Reverse Characteristics

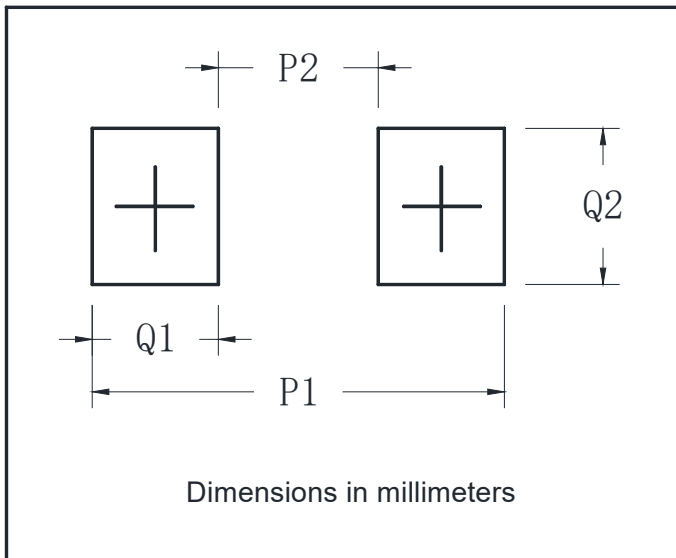


■ Outline Dimensions



| 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 |



GS12M

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