

General Purpose Surface Mount Rectifiers

Reverse Voltage: 50 to 1000V
Forward Current: 8.0 Amp

Features

- Low profile package
- For surface mounted applications
- Glass passivated chip junction
- High forward surge capability
- High temperature soldering guaranteed
260°C/10 seconds at terminals

Mechanical Data

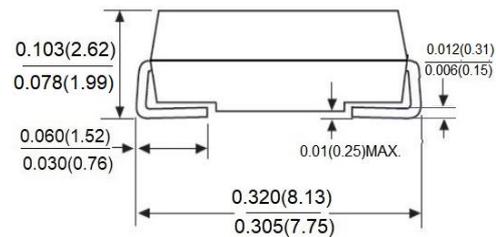
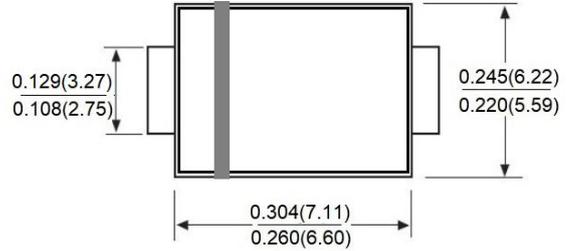
- **Package:** DO-214AB (SMC)
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per MIL-STD-750, Method 2026
- **Polarity:** Cathode line denotes the cathode end

Typical Applications

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

DO-214AB (SMC)

RoHS COMPLIANT
HALOGEN FREE



Package Outline Dimensions in Inches (Millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Parameter&Test Conditions | SYM. | GS8AC | GS8BC | GS8DC | GS8GC | GS8JC | GS8KC | GS8MC | Unit |
|---|-----------------------------------|-------------|-------|-------|-------|-------|-------|-------|------|
| Device marking code | | GS8A | GS8B | GS8D | GS8G | GS8J | GS8K | GS8M | |
| Maximum Recurrent Peak Reverse Voltage | V _{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | V _{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | V _{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1) | I _{O(AV)} | 8.0 | | | | | | | A |
| Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rated Load | I _{FSM} | 200 | | | | | | | A |
| Maximum Thermal Resistance, Junction To Ambient (Note1) | R _{θJA} | 47 | | | | | | | °C/W |
| Operating junction and storage temperature range | T _J , T _{STG} | -55 to +150 | | | | | | | °C |

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

| Parameter&Test Conditions | SYM. | GS8AC | GS8BC | GS8DC | GS8GC | GS8JC | GS8KC | GS8MC | Unit |
|---|-----------------|-------|-------|-------|-------|-------|-------|-------|------|
| Maximum Instantaneous Forward Voltage IFM =8A | V _{FM} | 1.1 | | | | | | | V |
| Maximum DC reverse current at rated DC blocking voltage | TA = 25°C | 5 | | | | | | | μA |
| | TA = 125°C | 300 | | | | | | | |
| Typical junction capacitance(Note2) | C _J | 55 | | | | | | | pF |

Notes:

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 area.
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
3. The typical data above is for reference only.

Rating and Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED

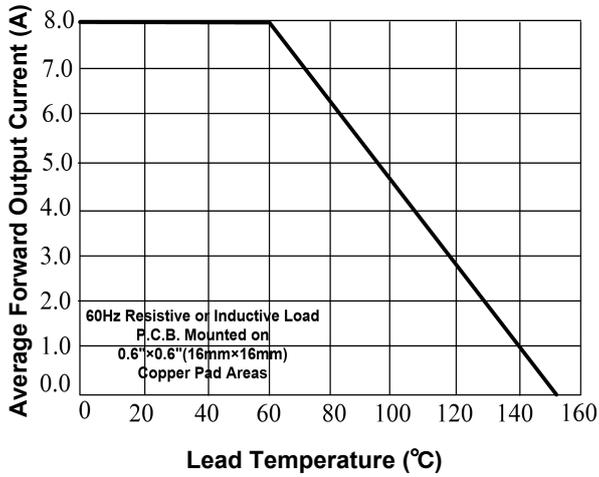


FIG. 2- -MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

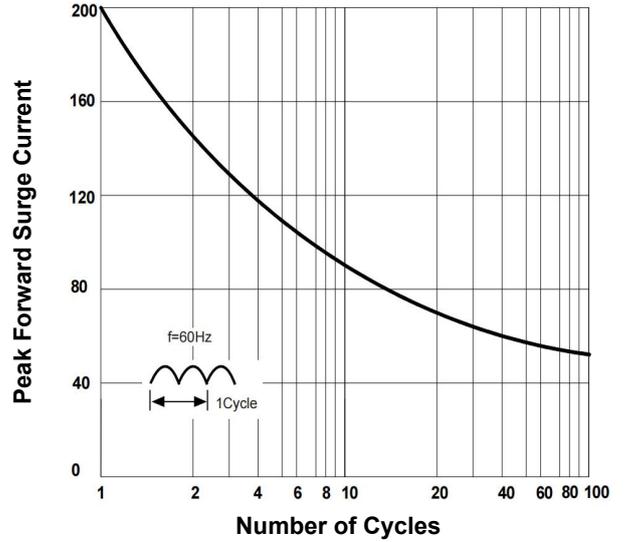


FIG. 3- TYPICAL FORWARD VOLTAGE

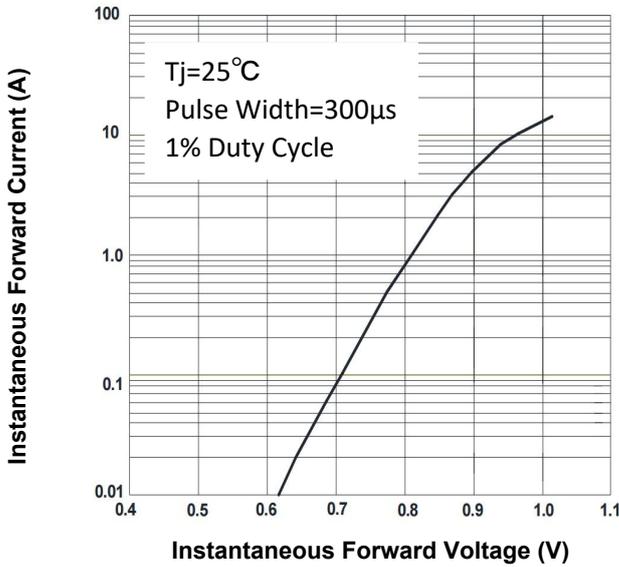
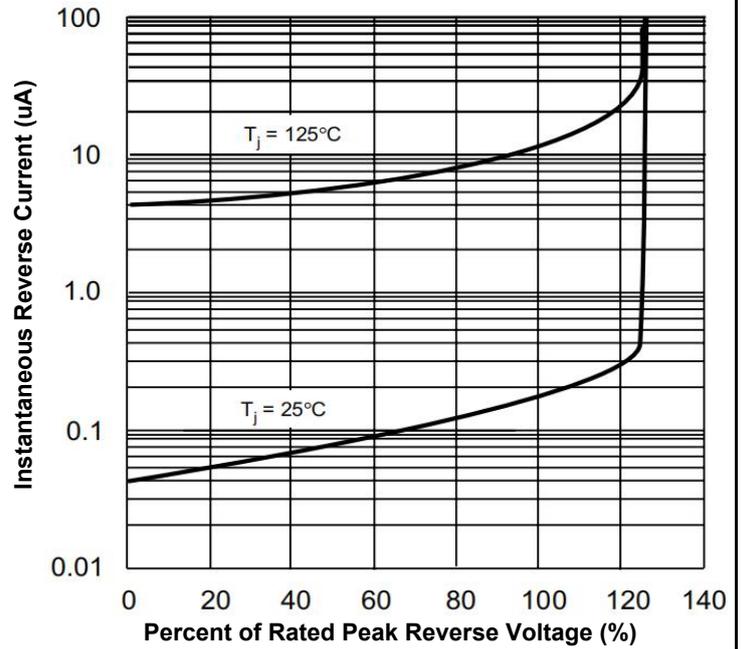
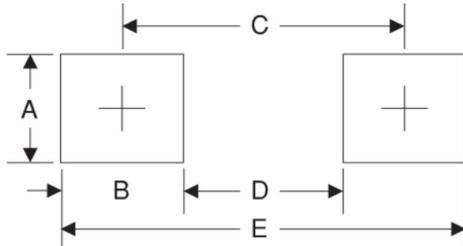


FIG. 4- TYPICAL REVERSE LEAKAGE



The curve above is for reference only.

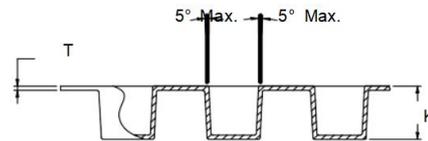
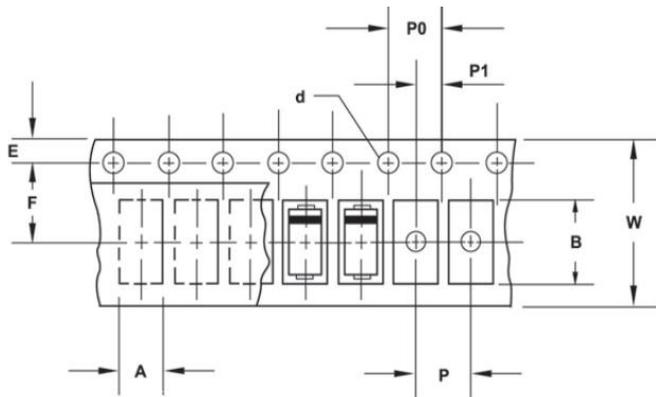
Recommended Pad Layout



| SYMBOL | Millimeters |
|--------|-------------|
| A | 3.80 |
| B | 3.00 |
| C | 6.90 |
| D | 3.80 |
| E | 9.90 |

Package Information

Carrier Dimension(mm)



| | | | |
|------|------|--------|-----------|
| W | F | d | E |
| 16.0 | 7.5 | ∅ 1.55 | 1.75 |
| A | B | K | T |
| 6.15 | 8.45 | 2.54 | 0.25 |
| P0 | P1 | P | Tolerance |
| 4.0 | 2.0 | 8.0 | 0.10 |

Package Specifications

| Package | Reel Size | Reel DIA. (mm) | Q'TY/Reel (Kpcs) | Box Size (mm) | QTY/Box (Kpcs) | Carton Size (mm) | Q'TY/Carton (Kpcs) |
|---------|-----------|----------------|------------------|---------------|----------------|------------------|--------------------|
| SMC | 13' | 330 | 3 | 340 | 6 | 365*355*370 | 42 |
| | 13' | 330 | 3 | 340 | 6 | 360*360*360 | 48 |

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