

Description

The GS5M is a high-performance rectifier diode designed for surface mount applications, featuring built-in strain relief and a low forward voltage drop. With a current rating of 5.0 Ampere and a voltage range from 50 to 1000 Volts, it utilizes reliable molded plastic construction with UL94V-0 rated flame retardant epoxy, ensuring durability and safety. The device is packaged in DO-214AB (SMC), making it suitable for reflow pick-and-place processes in various electronic assemblies. Its metallurgically bonded construction and versatile mounting position (any orientation) enhance its adaptability in different circuit designs, catering to both resistive and inductive loads in single-phase half-wave configurations at 60Hz.

Features

- ✦ Ideal for surface mount applications
- ✦ Easy pick and place functionality
- ✦ Built-in strain relief for enhanced reliability
- ✦ Low forward voltage drop to minimize power loss
- ✦ Molded plastic case with UL 94V-0 rated flame retardant epoxy
- ✦ Metallurgically bonded construction for robust performance
- ✦ Color band denotes cathode end for easy polarity identification
- ✦ Versatile mounting position (any orientation)
- ✦ DO-214AB (SMC) package
- ✦ Storage Period: 2 years

Applications

- ✦ Power supplies (AC-DC, DC-DC converters)
- ✦ Rectification circuits in consumer electronics
- ✦ Automotive electronics systems
- ✦ Industrial control equipment
- ✦ Lighting systems
- ✦ Telecommunications devices
- ✦ Battery charging circuits

Marking Diagram



Circuit Diagram



Ordering Information

| DEVICE | PACKAGE |
|--------|------------------|
| GS5M | 3000/Tape & Reel |

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

| TYPE NUMBER | GS5M | UNITS |
|---|------------|-------|
| Maximum Recurrent Peak Reverse Voltage | 1000 | V |
| Maximum RMS Voltage | 700 | V |
| Maximum DC Blocking Voltage | 1000 | V |
| Maximum Average Forward Rectified Current at Ta=75°C | 5.0 | A |
| Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | 120 | A |
| Maximum Instantaneous Forward Voltage at 5.0A | 1.10 | V |
| Maximum DC Reverse Current Ta=25°C | 5.0 | μA |
| at Rated DC Blocking Voltage Ta=125°C | 250 | μA |
| Typical Junction Capacitance (Note1) | 60 | pF |
| Typical Thermal Resistance RθJL (Note 2) | 13 | °C/W |
| Operating and Storage Temperature Range Tj, Tstg | -65 — +150 | °C |

NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Thermal Resistance Junction to Lead.

Typical Performance Curves

FIG.1-TYPICAL FORWARD CHARACTERISTICS

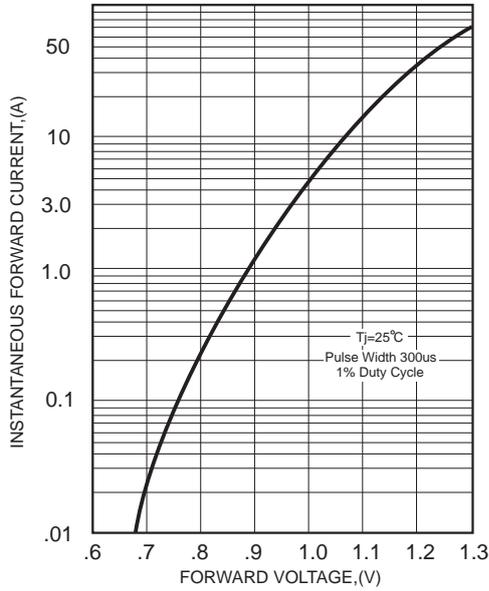


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

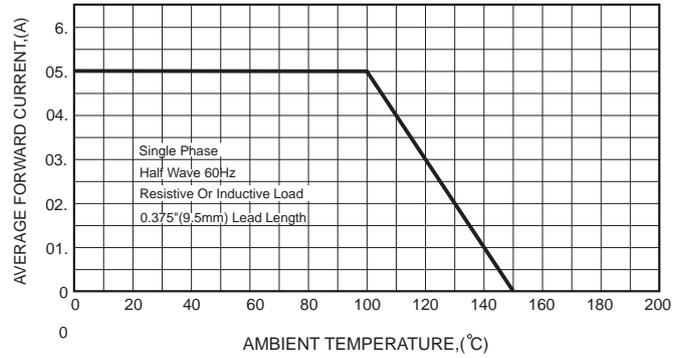


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

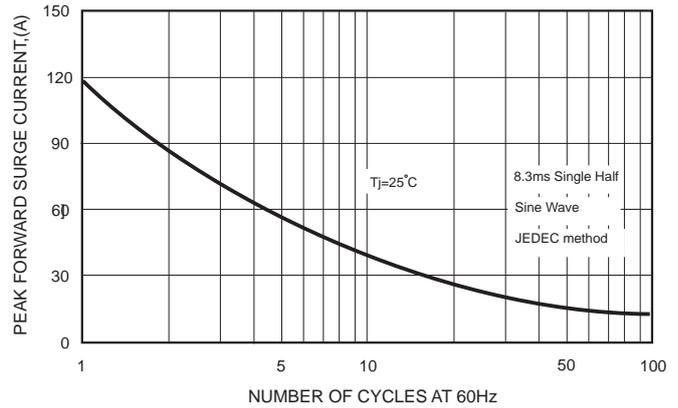


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

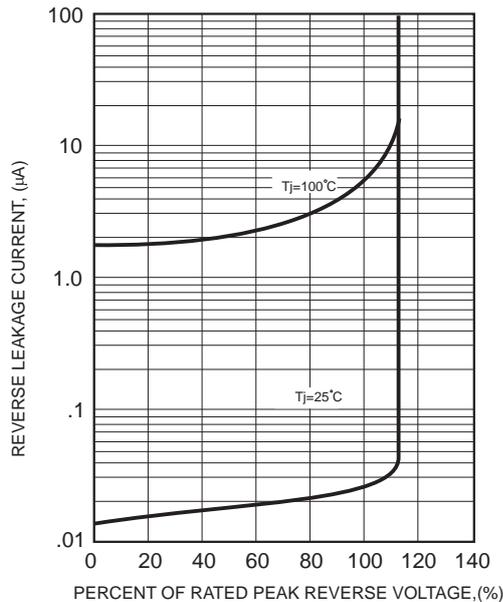
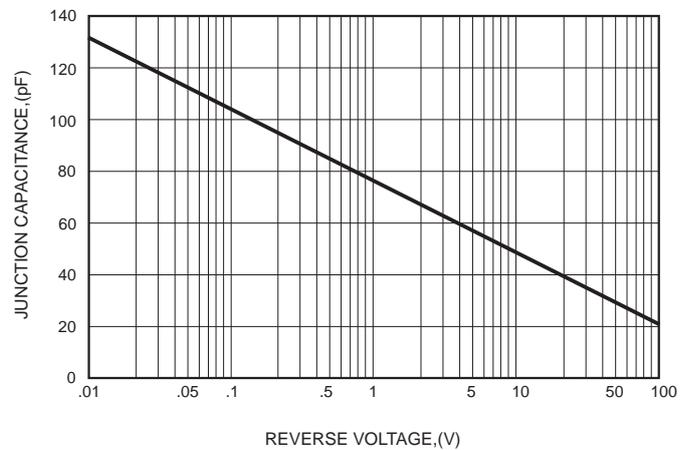
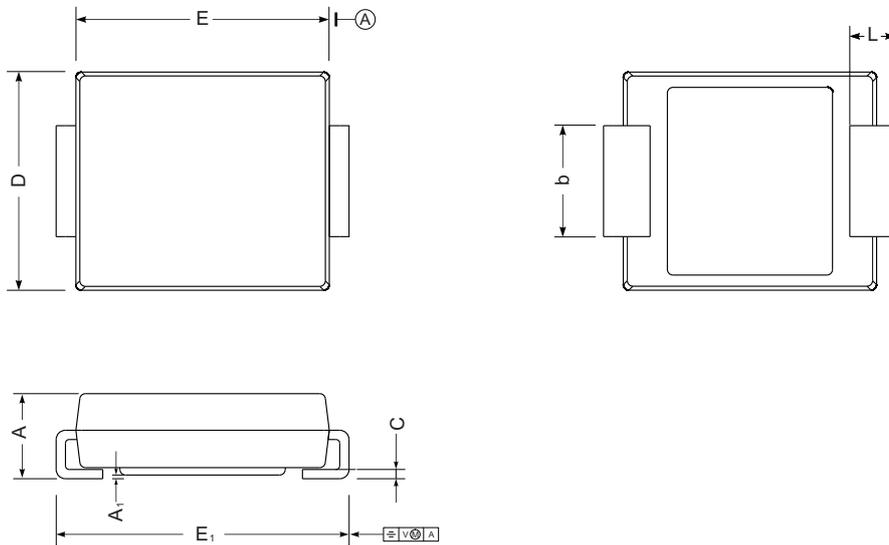


FIG.5-TYPICAL JUNCTION CAPACITANCE



SMC Package Outline Dimensions

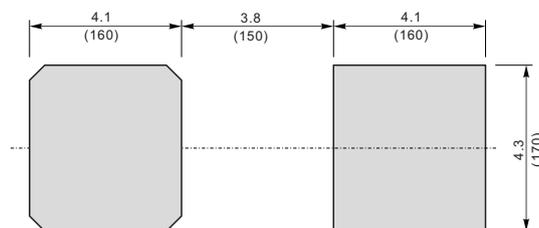


Plastic surface mounted package; 2 leads

| UNIT | | A | E | D | E ₁ | A ₁ | C | L | b |
|------|-----|------|-----|-----|----------------|----------------|------|-----|------|
| mm | max | 2.62 | 7.1 | 6.2 | 8.1 | 0.21 | 0.31 | 1.7 | 3.25 |
| | min | 2.00 | 6.6 | 5.6 | 7.8 | 0.05 | 0.15 | 1.0 | 2.75 |
| mil | max | 103 | 280 | 244 | 319 | 8.3 | 12 | 59 | 128 |
| | min | 79 | 260 | 220 | 307 | 2.0 | 5.9 | 32 | 108 |

SMC mechanical data

The recommended mounting pad size



Unit : $\frac{\text{mm}}{\text{mil}}$