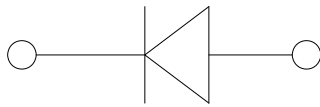
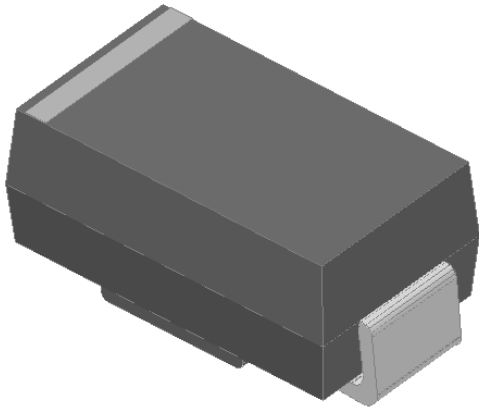


Surface Mount General Purpose Rectifier



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
- Part no. with suffix "Q" means AEC-Q101 qualified

Typical Applications

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

Mechanical Data

- **Package:** DO-214AC (SMA)
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:** Cathode line denotes the cathode end

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

| PARAMETER | SYMBOL | UNIT | GS1AQ | GS1BQ | GS1DQ | GS1GQ | GS1JQ | GS1KQ | GS1MQ |
|--|------------------|------------------|------------|-------|-------|-------|-------|-------|-------|
| Device marking code | | | GS1A | GS1B | GS1D | GS1G | GS1J | GS1K | GS1M |
| Repetitive peak reverse voltage | V _{RRM} | V | 50 | 100 | 200 | 400 | 600 | 800 | 1000 |
| Average rectified output current @60Hz sine wave, Resistance load, T _a (FIG.1) | I _O | A | 1.0 | | | | | | |
| Surge(non-repetitive)forward current @ 60Hz Half-sine wave, 1 cycle, T _a =25°C | I _{FSM} | A | 40 | | | | | | |
| Current squared time @1ms≤t≤8.3ms T _J =25°C, Rating of per diode | I ² t | A ² S | 6.64 | | | | | | |
| Storage temperature | T _{stg} | °C | -55~+150 | | | | | | |
| Junction temperature | T _J | °C | -55 ~ +150 | | | | | | |



GS1AQ THRU GS1MQ

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

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | GS1AQ | GS1BQ | GS1DQ | GS1GQ | GS1JQ | GS1KQ | GS1MQ | |
|--|------------------|------|-----------------------|-------|-------|-------|-------|-------|-------|-------|--|
| Maximum instantaneous forward voltage drop per diode | V _F | V | I _{FM} =1.0A | 1.1 | | | | | | | |
| Typical junction capacitance | C _J | pF | 4V, 1 MHz | 16 | | | | | 12 | | |
| Maximum DC reverse current at rated DC blocking voltage per diode @ VRM=VRRM | I _{RRM} | μA | T _a =25°C | 5 | | | | | | | |
| | | | T _a =125°C | 50 | | | | | | | |

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

| PARAMETER | SYMBOL | UNIT | GS1AQ | GS1BQ | GS1DQ | GS1GQ | GS1JQ | GS1KQ | GS1MQ | |
|--------------------|----------------------|------|-------------------|-------|-------|-------|-------|-------------------|-------|--|
| Thermal Resistance | R _{θJ-A(1)} | °C/W | 75 ⁽¹⁾ | | | | | 85 ⁽¹⁾ | | |
| | R _{θJ-L(1)} | °C/W | 27 ⁽¹⁾ | | | | | 30 ⁽¹⁾ | | |

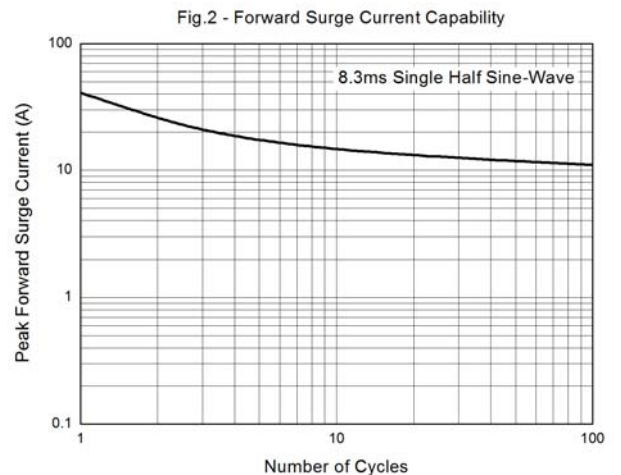
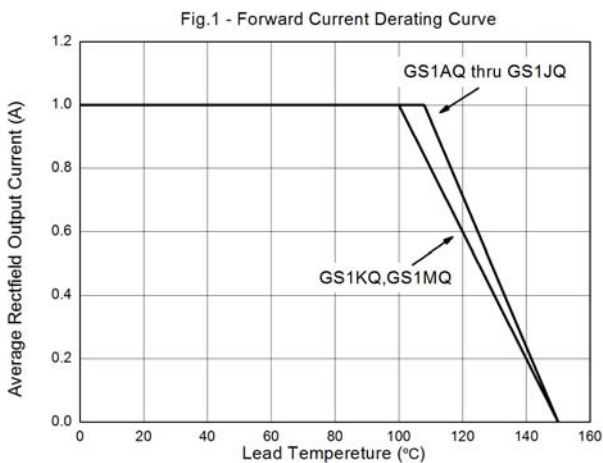
Note

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 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 |
|---------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| GS1AQ- GS1MQ | F2 | Approximate 0.067 | 7500 | 15000 | 120000 | 13" reel |

■ Characteristics (Typical)





GS1AQ THRU GS1MQ

Fig.3-Typical Forward Characteristics

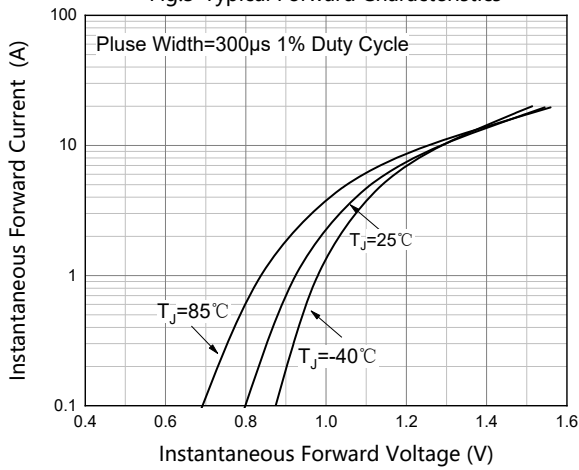


Fig.4 - Typical Reverse Leakage Characteristics

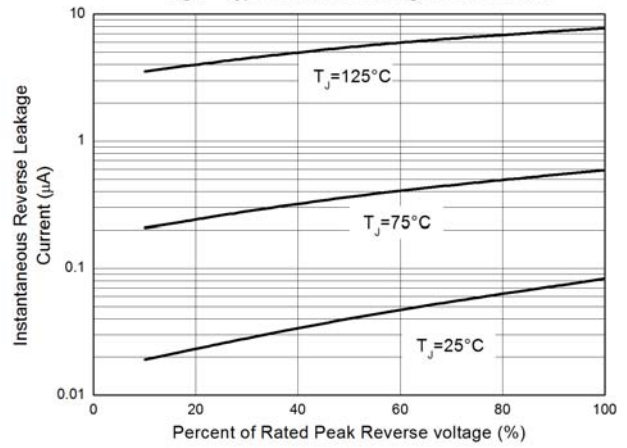
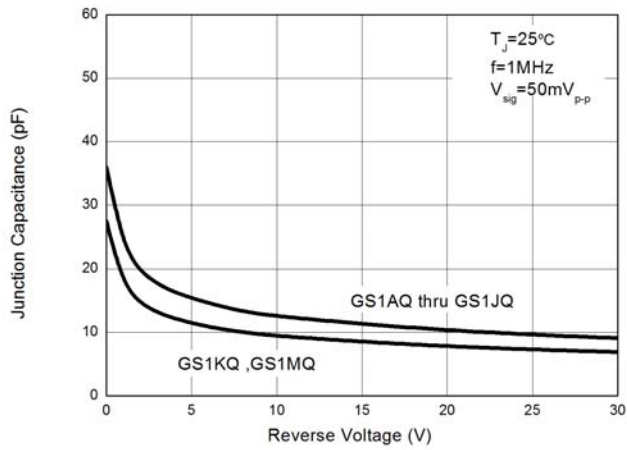


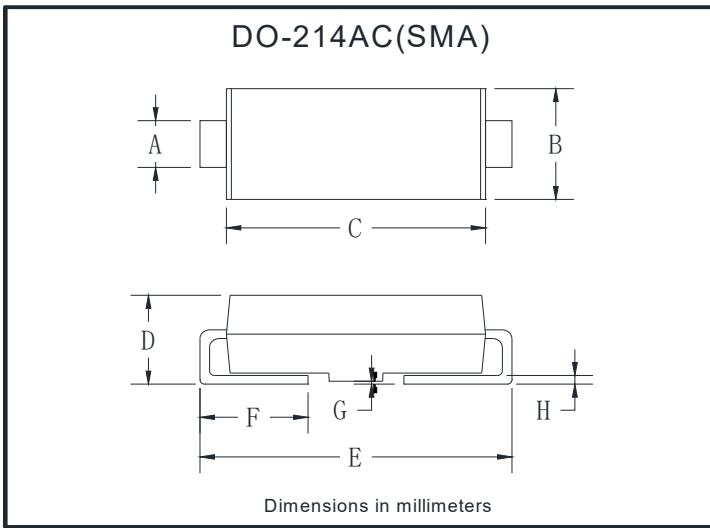
Fig.5 - Typical Junction Capacitance





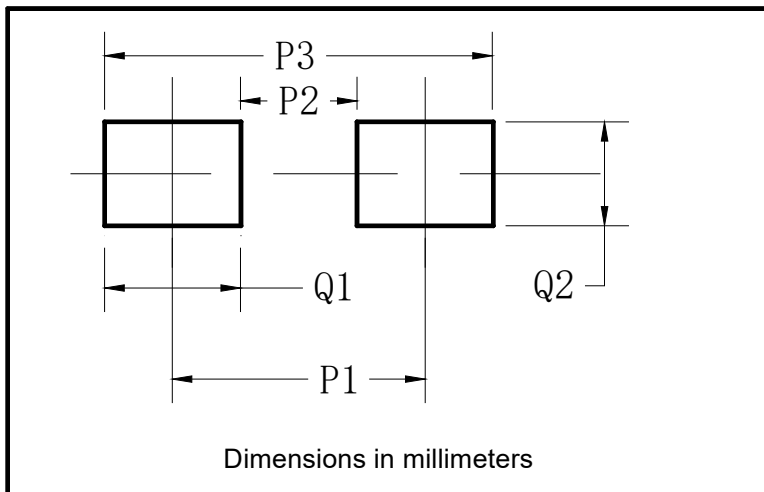
GS1AQ THRU GS1MQ

■ Outline Dimensions



| DO-214AC(SMA) | | |
|---------------|------|------|
| Dim | Min | Max |
| A | 1.25 | 1.58 |
| B | 2.40 | 2.83 |
| C | 4.25 | 4.75 |
| D | 1.90 | 2.30 |
| E | 4.93 | 5.28 |
| F | 0.76 | 1.41 |
| G | 0.08 | 0.20 |
| H | 0.15 | 0.31 |

■ Suggested Pad Layout



| DO-214AC(SMA) | |
|---------------|-------------|
| Dim | Millimeters |
| P1 | 4.00 |
| P2 | 1.50 |
| P3 | 6.50 |
| Q1 | 2.50 |
| Q2 | 1.70 |



GS1AQ THRU GS1MQ

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