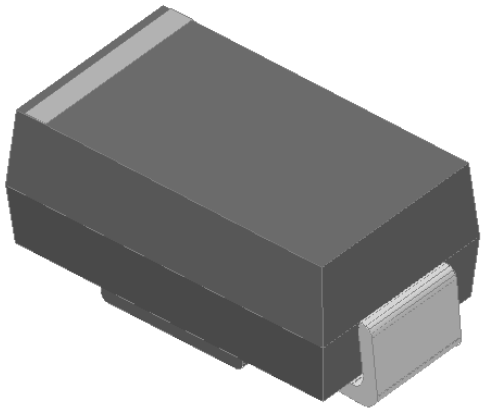
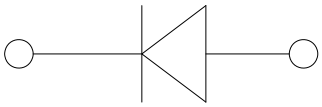
# Surface Mount General Purpose Rectifier





## 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-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 (Ta=25℃ Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | GS1Q |
|---|---|---|---|
| Device marking code | | | GS1Q |
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | V | 1200 |
| Maximum RMS Voltage | $V_{RMS}$ | V | 840 |
| Maximum DC blocking Voltage | $V_{DC}$ | V | 1200 |
| Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1) | $I_O$ | A | 1.0 |
| Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Tj=25℃ | $I_{FSM}$ | A | 30 |
| Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25℃ | | | 60 |
| Current squared time @1ms≤t≤8.3ms Tj=25℃ | $I^2t$ | $A^2s$ | 3.735 |
| Storage temperature | $T_{stg}$ | ℃ | -55 ~ +150 |
| Junction temperature | $T_j$ | ℃ | -55 ~ +150 |

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

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | GS1Q |
|---|---|---|---|---|
| Maximum instantaneous forward voltage | $V_F$ | V | $I_{FM}$=1.0A | 1.1 |
| Maximum DC reverse current at rated DC blocking voltage | $I_R$ | μA | $T_j$=25℃ | 5 |
| | | | $T_j$=125℃ | 100 |
| Typical junction capacitance | Cj | pF | Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C | 8 |

## ■Thermal Characteristics （$T_a$=25℃ Unless otherwise specified）

| PARAMETER | SYMBOL | UNIT | GS1Q |
|---|---|---|---|
| Typical Thermal Resistance | RθJ-A(1) | ℃/W | 70 |
| | RθJ-L(1) | ℃/W | 22 |
| | RθJ-C(1) | ℃/W | 20 |

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)

| PREFERED P/N | PACKAGE CODE | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---|---|---|---|---|---|---|
| GS1Q | F1 | Approximate 0.059 | 5000 | / | 80000 | 13” reel |
| GS1Q | F2 | Approximate 0.059 | 7500 | / | 120000 | 13” reel |
| GS1Q | F3 | Approximate 0.059 | 7500 | / | 60000 | 13” reel |
| GS1Q | F4 | Approximate 0.059 | 1800 | 14400 | 57600 | 7” reel |
| GS1Q | F5 | Approximate 0.059 | 2000 | 16000 | 64000 | 7” reel |
| GS1Q | F6 | Approximate 0.059 | 5000 | / | 100000 | 13” reel |

## ■ Characteristics (Typical)

FIG.1: Io-TL Curve

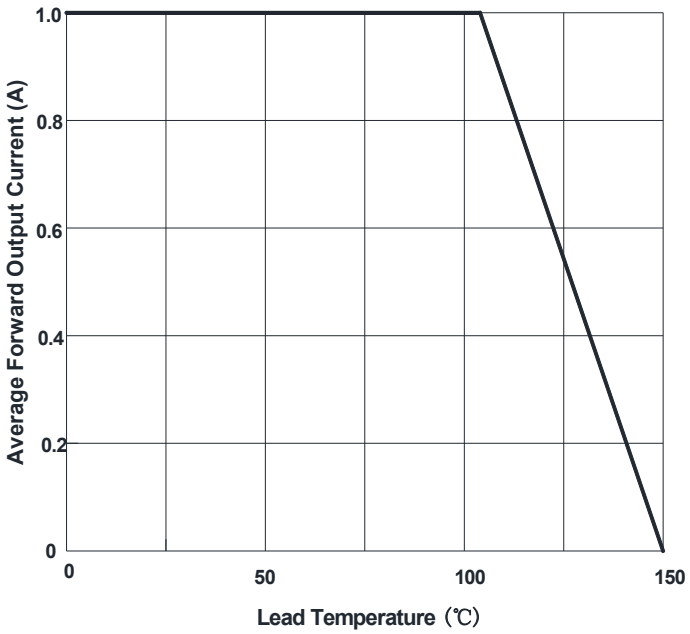



FIG.2: Forward Surge Current Capability

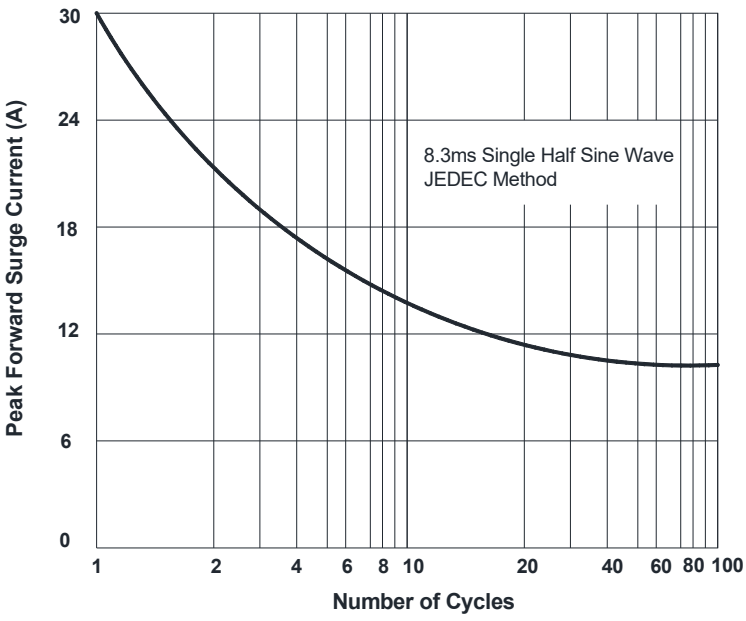


FIG.3: Typical Forward Voltage

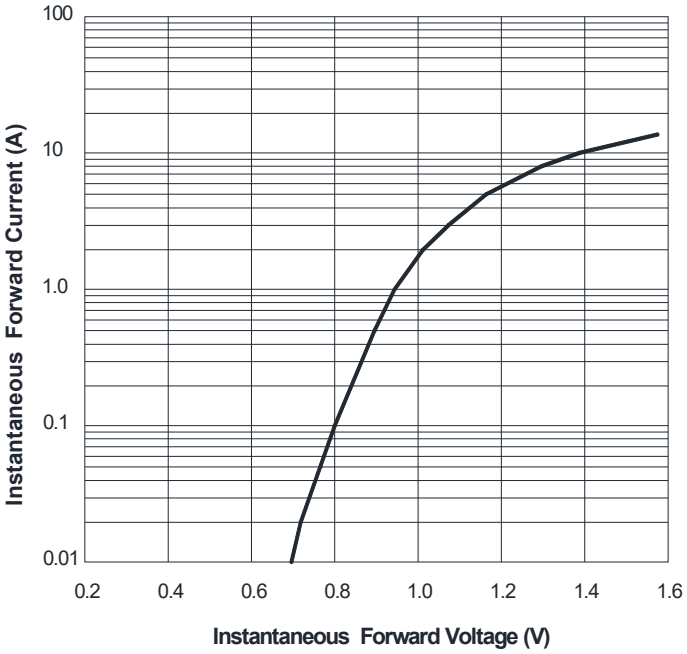
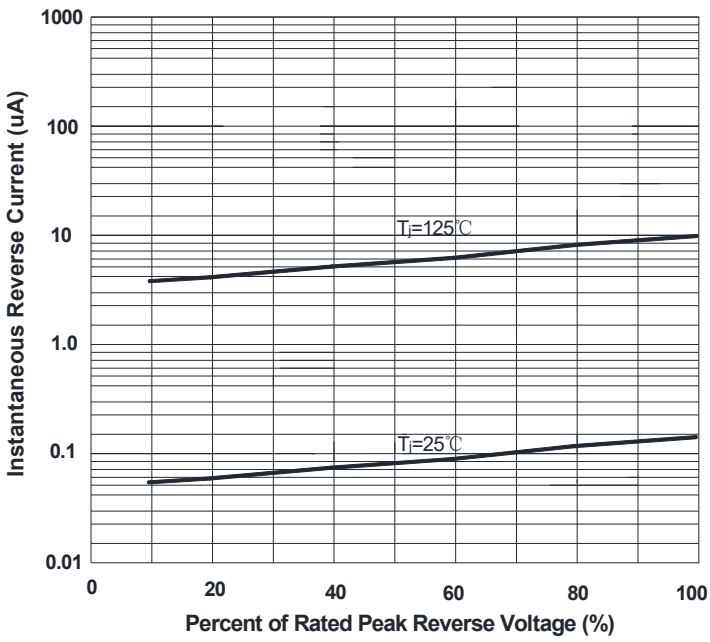
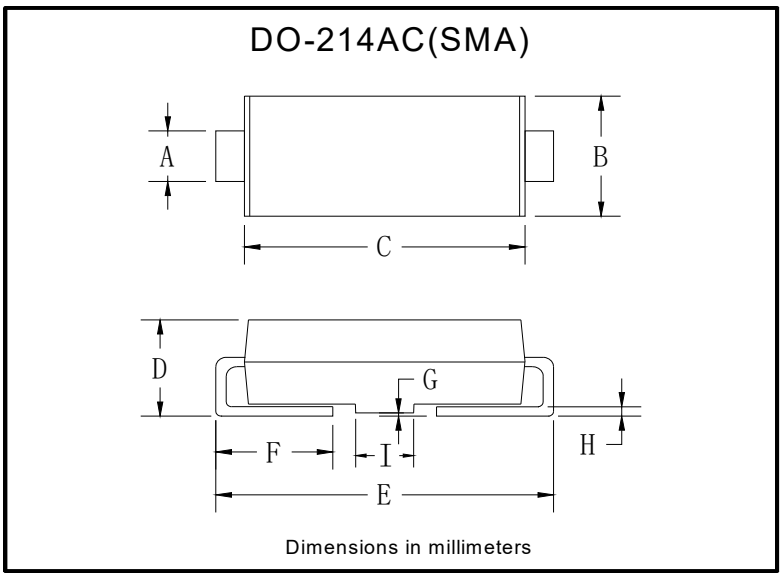



FIG.4: Typical Reverse Characteristics

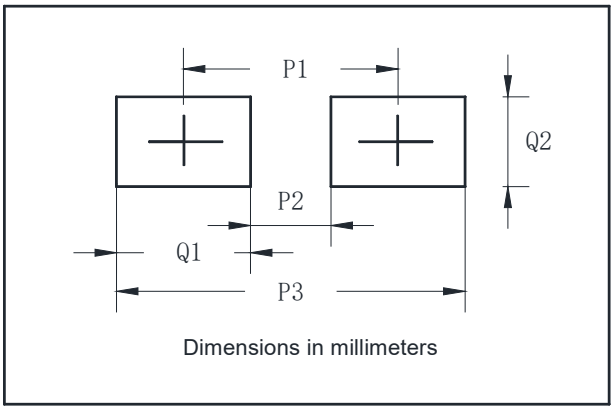



## ■ Outline Dimensions




| DO-214AC(SMA) | | |
|---|---|---|
| Dim | Min | Max |
| A | 1.25 | 1.58 |
| B | 2.40 | 2.83 |
| C | 4.00 | 4.75 |
| D | 1.90 | 2.30 |
| E | 4.93 | 5.28 |
| F | 0.76 | 1.41 |
| G | 0.05 | 0.20 |
| H | 0.15 | 0.31 |
| I | 1.70 | 2.10 |

## ■Suggested Pad Layout




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

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