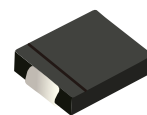


FEATURES

- Low profile package
- Idea for printed circuit board
- Glass passivated Junction chip
- High forward surge current capability
- Meet AEC-Q101 Requirements



DO-214AB(SMC)



Schematic Symbol

APPLICATIONS

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

APPROVALS

| | |
|-------------|------------------------------------|
| RoHS | Compliance with 2011/65/EU |
| HF | Compliance with IEC61249-2-21:2003 |

MAXIMUM RATINGS AND CHARACTERISTICS (T_A=25°C)

| Parameter | | Symbol | GS8ACQ | GS8BCQ | GS8DCQ | GS8GCQ | GS8JCQ | GS8KCQ | GS8MCQ | Unit |
|---|-----------------------|----------------------------------|-------------|--------|--------|--------|--------|--------|--------|------|
| Marking | | | GS8A | GS8B | GS8D | GS8G | GS8J | GS8K | GS8M | |
| Maximum Repetitive 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 | |
| Maximum DC Blocking Voltage | | V _{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | |
| Average Rectified Output Current @60hz Sine Wave, Resistance Load, TL (Fig.1) | | I _O | 8.0 | | | | | | | A |
| Forward Surge Current (Non-repetitive) @60hz Half-sine Wave,1 Cycle, Tj=25°C | | I _{FSM} | 200 | | | | | | | |
| Forward Surge Current (Non-Repetitive) @1ms, Square Wave, 1 Cycle, Tj=25°C | | | 400 | | | | | | | |
| Maximum Instantaneous Forward Voltage I _{FM} =8.0A | | V _F | 1.1 | | | | | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | T _J =25°C | I _R | 5 | | | | | | | μA |
| | T _J =125°C | | 100 | | | | | | | |
| Typical Junction Capacitance Measured at 1MHz And Applied Reverse Voltage Of 4.0 V.D.C | | C _J | 55 | | | | | | | pF |
| Current Squared Time @1ms≤t≤8.3ms Tj=25°C | | I²t | 166 | | | | | | | A²s |
| Typical Thermal Resistance ⁽¹⁾ | | R _{θJ-A} | 50 | | | | | | | °C/W |
| | | R _{θJ-L} | 18 | | | | | | | |
| | | R _{θJ-C} | 15 | | | | | | | |
| Operating Junction And Storage Temperature Range | | T _J ,T _{STG} | -55 to +150 | | | | | | | °C |

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

CHARACTERISTIC CURVES

Fig. 1- I_o -TL Curve

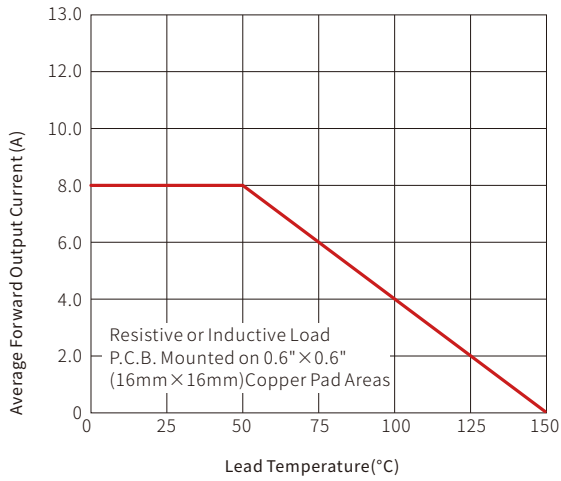


Fig. 2-Forward Surge Current Capability

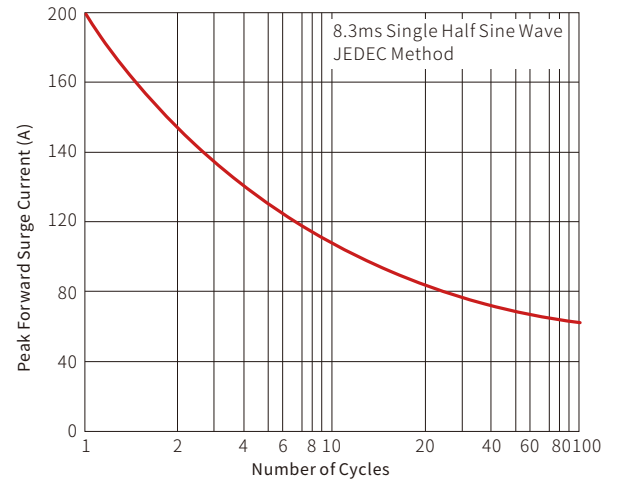


Fig. 3-Typical Forward Voltage

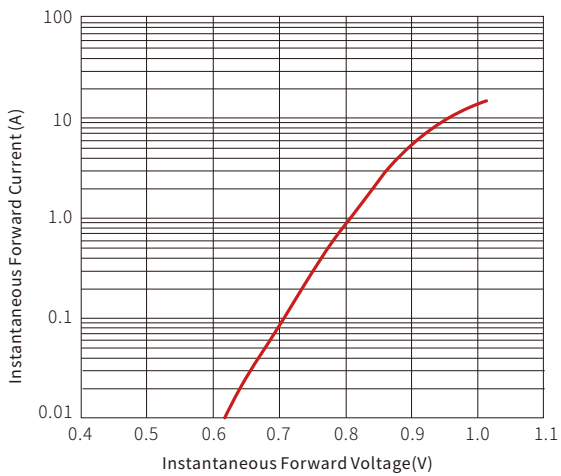
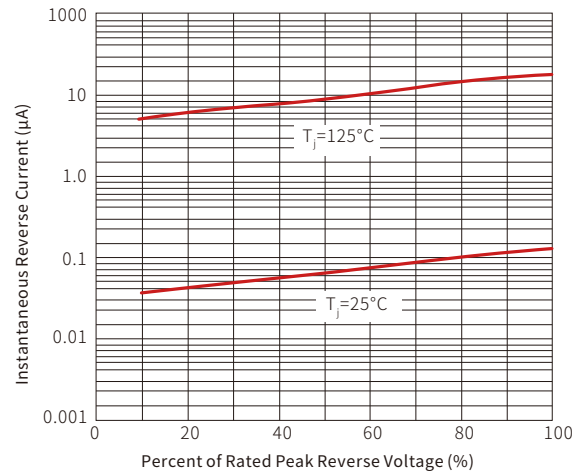
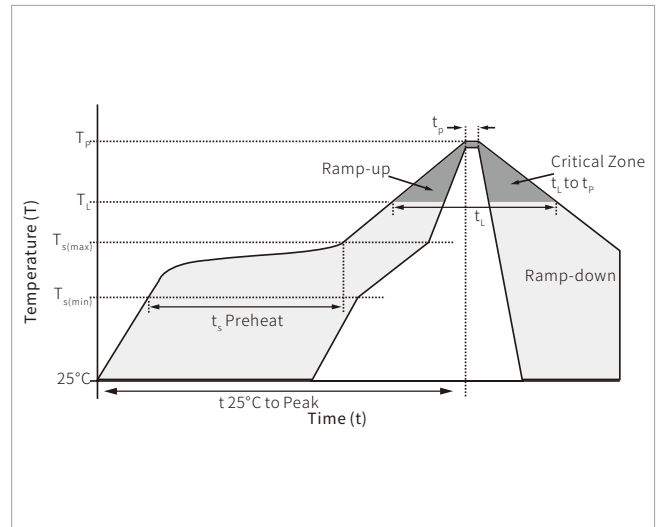


Fig. 4-Typical Reverse Characteristics

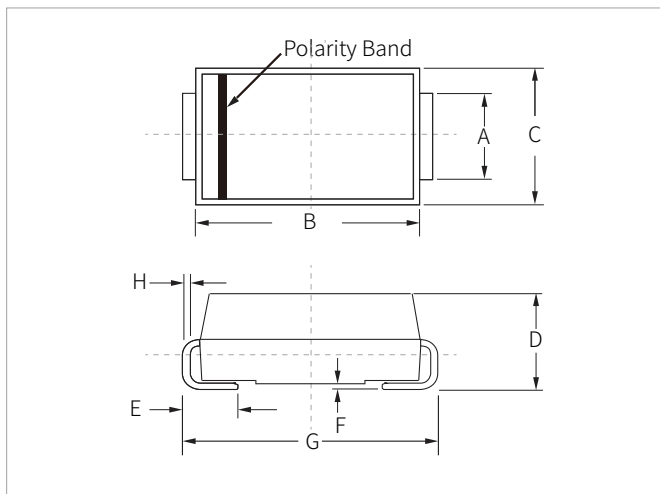


SOLDERING PARAMETERS

| Reflow Condition | | Lead-free assembly |
|---|----------------------------------|--------------------|
| Pre Heat | Temperature Max ($T_{s(min)}$) | 150°C |
| | Temperature Max ($T_{s(max)}$) | 200°C |
| | Time (min to max) (t_s) | 60 – 180 secs |
| Average ramp up rate (Liquidus Temp (T_L) to peak | | 3°C/second max |
| $T_{s(max)}$ to T_L - Ramp-up Rate | | 3°C/second max |
| Reflow | Temperature (T_L) (Liquidus) | 217°C |
| | Time (min to max) (t_L) | 60 – 150 seconds |
| Peak Temperature (T_p) | | 260°C |
| Time within 5°C of actual peak Temperature (t_p) | | 20 – 40 seconds |
| Ramp-down Rate | | 6°C/second max |
| Time 25°C to peak Temperature (T_p) | | 8 minutes max. |
| Do not exceed | | 260°C |

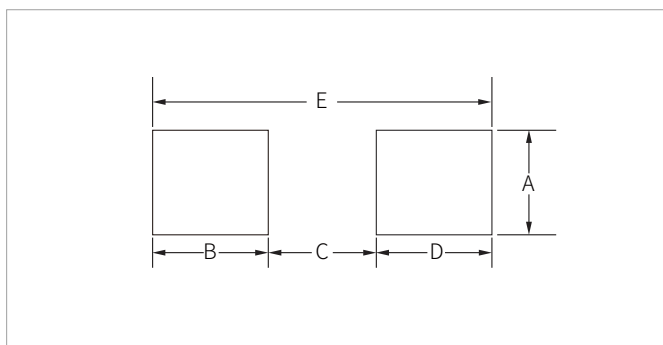


DO-214AB(SMC) PACKAGE INFORMATION



| Ref. | Millimeters | | Inches | |
|------|-------------|------|--------|-------|
| | Min. | Max. | Min. | Max. |
| A | 2.80 | 3.20 | 0.110 | 0.126 |
| B | 6.60 | 7.20 | 0.260 | 0.283 |
| C | 5.70 | 6.10 | 0.224 | 0.240 |
| D | 2.15 | 2.75 | 0.085 | 0.108 |
| E | 1.00 | 1.60 | 0.039 | 0.063 |
| F | 0.02 | 0.20 | 0.000 | 0.008 |
| G | 7.60 | 8.00 | 0.299 | 0.315 |
| H | 0.15 | 0.30 | 0.006 | 0.012 |

RECOMMENDED PAD LAYOUT DIMENSIONS



| Ref. | Millimeters | | Inches | |
|------|-------------|------|----------|-------|
| | Min. | Max. | Min. | Max. |
| A | 3.30 | - | 0.129 | - |
| B | 2.40 | - | 0.094 | - |
| C | - | 4.20 | - | 0.165 |
| D | 2.40 | - | 0.094 | - |
| E | 8.20REF | | 0.323REF | |

ORDERING INFORMATION

| Part Number | Component Package | QTY/Reel | Reel Size |
|---------------|-------------------|----------|-----------|
| GS8ACq-GS8MCq | DO-214AB(SMC) | 3000PCS | 13" |

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