# Surface Mount Glass Passivated Rectifier

## FEATURES

- Low forward voltage drop
- Ideal for automated placement
- High surge current capability
- Moisture sensitivity: level 1, per J-STD-020
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



**DO-214AB(SMC)**

Pb-Free

RoHS COMPLIANT

## MECHANICAL DATA

**Case**：DO-214AB(SMC)

Molding compound, UL flammability classification rating 94V-0
Base P/N with suffix "G" on packing code - halogen-free, RoHS compliant

**Terminal**：Matte tin plated leads, solderable per JESD22-B102
Meet JESD 201 class 1A whisker test

**Polarity**：Indicated by cathode band

**Weight**：0.27 gram (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERSTICS ($T_A$=25℃ unless otherwise noted) | | | | | | | |
|---|---|---|---|---|---|---|---|
| PARAMETER | | SYMBOL | **S8GC** | **S8JC** | **S8KC** | **S8MC** | Unit |
| Maximum repetitive peak reverse voltage | | $V_{RRM}$ | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | | $V_{RMS}$ | 280 | 420 | 560 | 700 | V |
| Maximum DC blocking voltage | | $V_{DC}$ | 400 | 600 | 800 | 1000 | V |
| Maximum average forward rectified current | | $I_{F(AV)}$ | 8 | | | | A |
| Peak forward surge current 8.3 ms single half sine-wave | $T_J$ =25℃ | $I_{FSM}$ | 200 | | | | A |
| | $T_J$ =125℃ | | 170 | | | | |
| Peak forward surge current 1.0 ms single half sine-wave | $T_J$ =25℃ | $I_{FSM}$ | 600 | | | | A |
| | $T_J$ =125℃ | | 338 | | | | |
| Maximum instantaneous forward voltage (Note 1) IF= 8 A | | $V_F$ | 0.985 | | | | V |
| Maximum reverse current @ rated VR $T_A$=25 ℃ | | $I_R$ | 10 | | | | μA |
| $T_A$=125 ℃ | | | 250 | | | | |
| Typical Junction Capacitance (Note 2) | | $C_J$ | 48 | | | | $_P$F |
| Typical thermal resistance (Note 3) | | $R_{\theta JA}$ | 44 | | | | $^O$C/W |
| Operating junction temperature range | | $T_J$ | - 55 to + 150 | | | | $^O$C |
| Storage temperature range | | $T_{STG}$ | - 55 to + 150 | | | | $^O$C |

Note 1：Pulse test with PW=300u sec, 1% duty cycle

Note 2: Measured at 1.0MHz and applied reverse voltage of 4.0V DC

Note 3: Mount on Cu pad size 16mm x 16mm on PCB

| ORDERING INFORMATION | | | | |
|---|---|---|---|---|
| PART NO. | PACKING CODE | GREEN COMPOUND | PACKAGE | PACKING |
| S8xC (Note 1) | R7 | Suffix "G" | SMC | 850 / 7" Plastic reel |
| | R6 | | SMC | 3000 / 13" Paper reel |
| | M6 | | SMC | 3000 / 13" Plastic reel |

Note 1: "xx" defines voltage from 400V (S8GC) to 1000V (S8MC)

| EXAMPLE | | | | |
|---|---|---|---|---|
| PREFERRED P/N | PART NO. | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION |
| S8MC R7 | SS36 | R7 | | |
| SMC R7G | SS36 | R7 | G | Green compound |

## RATINGS AND CHATACTERISTICS CURVES

(TA=25℃ unless otherwise noted)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

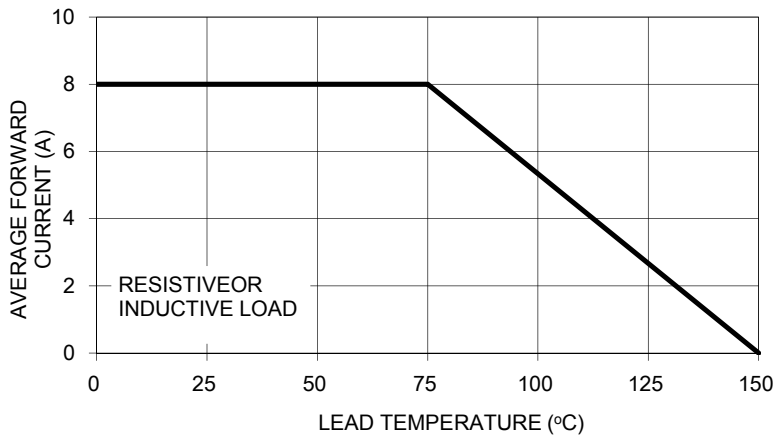



FIG. 2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

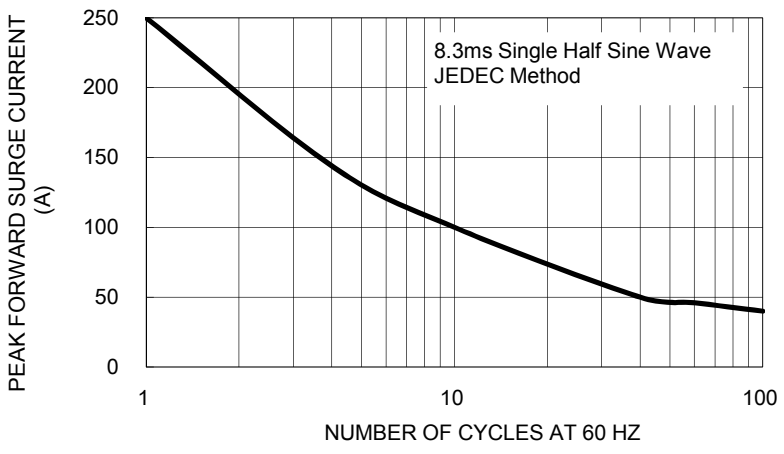



FIG. 3- TYPICAL FORWARD CHARACTERISTICS

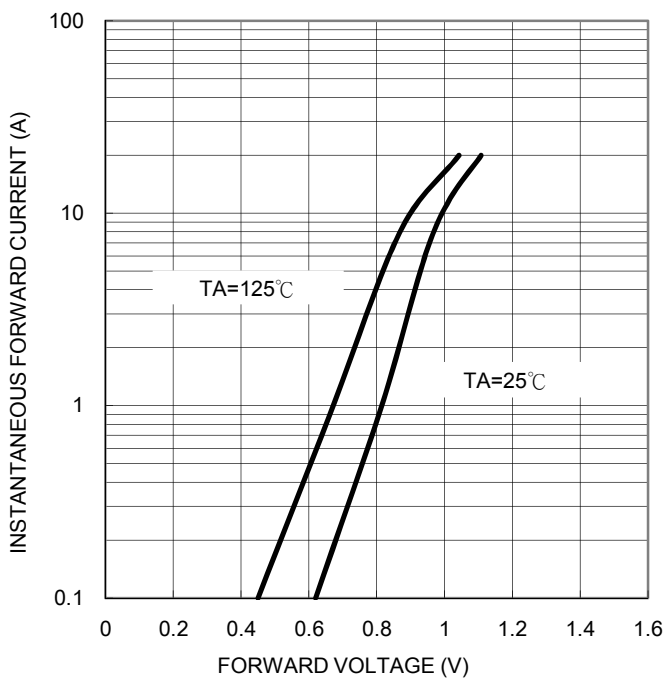
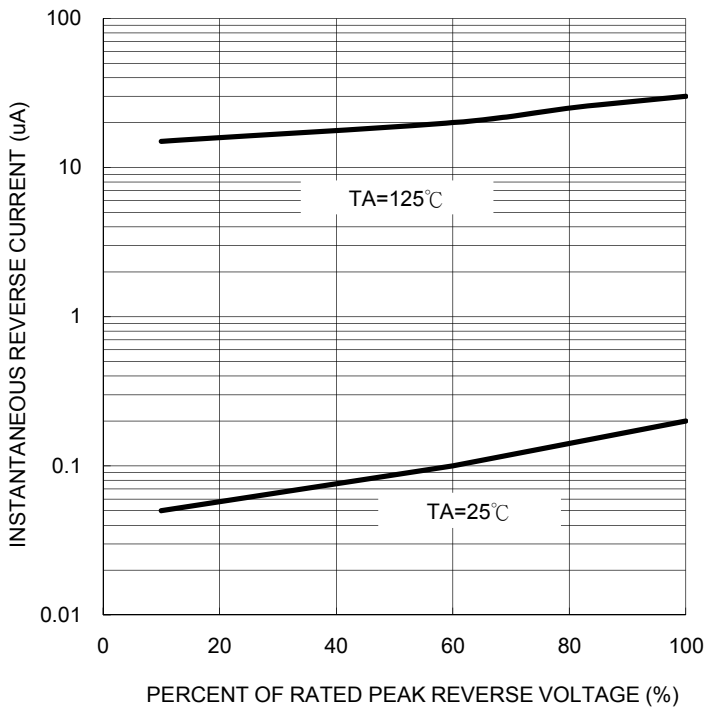
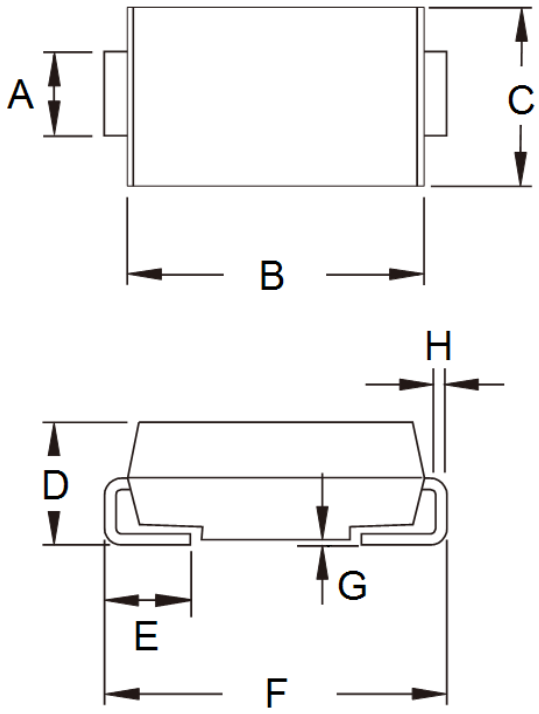



FIG. 4- TYPICAL REVERSE CHARACTERISTICS

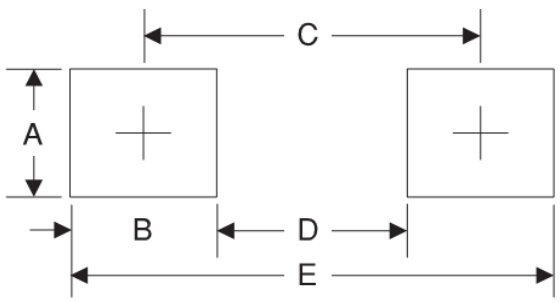


## PACKAGE OUTLINE DIMENSIONS




| DIM. | Unit(mm) | | Unit(inch) | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 2.90 | 3.20 | 0.114 | 0.126 |
| B | 6.60 | 7.11 | 0.260 | 0.280 |
| C | 5.59 | 6.22 | 0.220 | 0.245 |
| D | 2.00 | 2.62 | 0.079 | 0.103 |
| E | 1.00 | 1.60 | 0.039 | 0.063 |
| F | 7.75 | 8.13 | 0.305 | 0.320 |
| G | 0.10 | 0.20 | 0.004 | 0.008 |
| H | 0.15 | 0.31 | 0.006 | 0.012 |

## SUGGESTED PAD LAYOUT




| Symbol | Unit(mm) |
|---|---|
| A | 3.3 |
| B | 2.5 |
| C | 6.8 |
| D | 4.4 |
| E | 9.4 |

## MARKING DIAGRAM




P/N = Specific Device Code
G = Green Compound
YW = Date Code
F = Factory Code