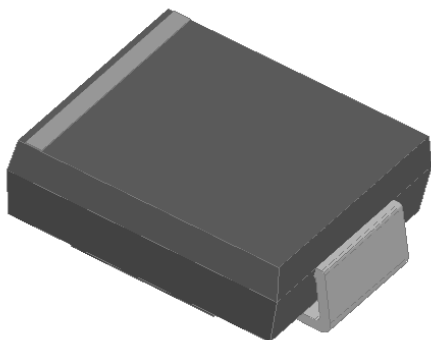


## Surface Mount General Purpose Rectifier

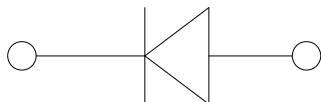


## Features

- 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-214AB (SMC)
- 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: Color band denotes the cathode end

■Maximum Ratings ( $T_a=25^{\circ}\text{C}$  Unless otherwise specified)

| PARAMETER                                                                                         | SYMBOL    | UNIT                 | S8A        | S8B | S8D | S8G | S8J | S8K | S8M  |
|---------------------------------------------------------------------------------------------------|-----------|----------------------|------------|-----|-----|-----|-----|-----|------|
| Maximum Repetitive peak reverse voltage                                                           | $V_{RRM}$ | V                    | 50         | 100 | 200 | 400 | 600 | 800 | 1000 |
| Maximum RMS Voltage                                                                               | $V_{RMS}$ | V                    | 35         | 70  | 140 | 280 | 420 | 560 | 700  |
| Maximum DC Blocking Voltage                                                                       | $V_{DC}$  | V                    | 50         | 100 | 200 | 400 | 600 | 800 | 1000 |
| Average Rectified Output Current<br>@60Hz sine wave, Resistance load, TL (FIG.1)                  | $I_o$     | A                    | 8.0        |     |     |     |     |     |      |
| Forward Surge Current (Non-repetitive)<br>@60Hz Half-sine wave, 1 cycle, $T_j=25^{\circ}\text{C}$ | $I_{FSM}$ | A                    | 200        |     |     |     |     |     |      |
| Forward Surge Current (Non-repetitive)<br>@1ms, square wave, 1 cycle, $T_j=25^{\circ}\text{C}$    |           |                      | 400        |     |     |     |     |     |      |
| Current squared time<br>@1ms≤t≤8.3ms $T_j=25^{\circ}\text{C}$                                     | $I^2t$    | $\text{A}^2\text{s}$ | 166        |     |     |     |     |     |      |
| Storage Temperature                                                                               | $T_{stg}$ | $^{\circ}\text{C}$   | -55 ~ +150 |     |     |     |     |     |      |
| Junction Temperature                                                                              | $T_j$     | $^{\circ}\text{C}$   | -55 ~ +150 |     |     |     |     |     |      |

# S8A THRU S8M

## ■Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                                               | SYMBOL         | UNIT | TEST CONDITIONS                                           | S8A | S8B | S8D | S8G | S8J | S8K | S8M |
|---------------------------------------------------------|----------------|------|-----------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|
| Maximum instantaneous forward voltage                   | V <sub>F</sub> | V    | I <sub>FM</sub> =8.0A                                     | 1.1 |     |     |     |     |     |     |
| Maximum DC reverse current at rated DC blocking voltage | I <sub>R</sub> | μA   | T <sub>j</sub> =25°C                                      | 5   |     |     |     |     |     |     |
|                                                         |                |      | T <sub>j</sub> =125°C                                     | 100 |     |     |     |     |     |     |
| Typical junction capacitance                            | C <sub>j</sub> | pF   | Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C | 55  |     |     |     |     |     |     |

## ■Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                  | SYMBOL                | UNIT | S8A | S8B | S8D | S8G | S8J | S8K | S8M |
|----------------------------|-----------------------|------|-----|-----|-----|-----|-----|-----|-----|
| Typical Thermal resistance | R <sub>θJ-A</sub> (1) | °C/W | 50  |     |     |     |     |     |     |
|                            | R <sub>θJ-L</sub> (1) |      | 18  |     |     |     |     |     |     |
|                            | R <sub>θJ-C</sub> (1) |      | 15  |     |     |     |     |     |     |

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

## ■ Characteristics(Typical)

FIG.1: I<sub>o</sub>-T<sub>L</sub> Curve

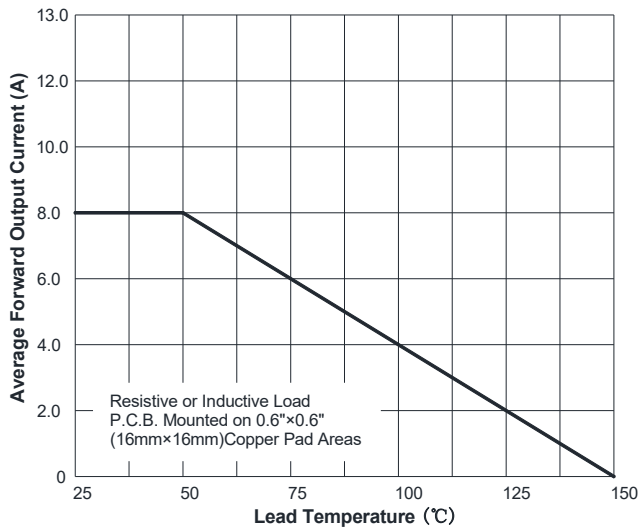
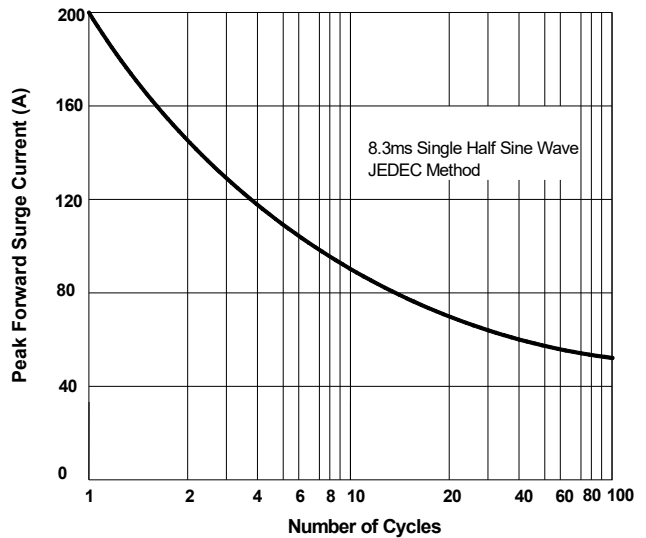


FIG.2: Forward Surge Current Capability



# S8A THRU S8M

FIG.3: Typical Forward Voltage

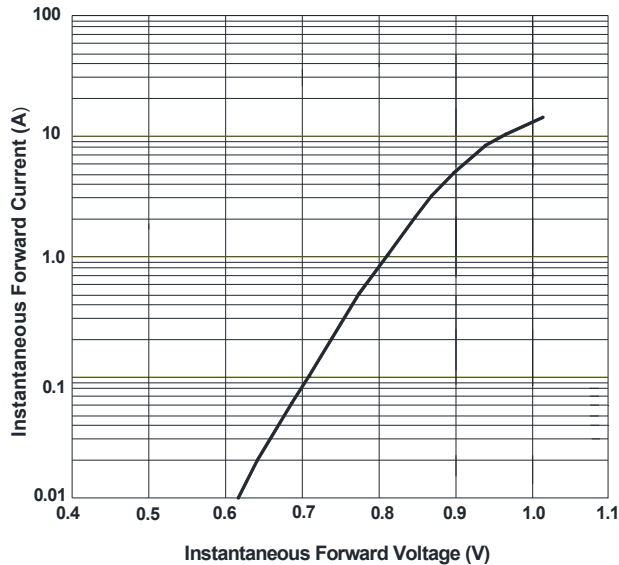
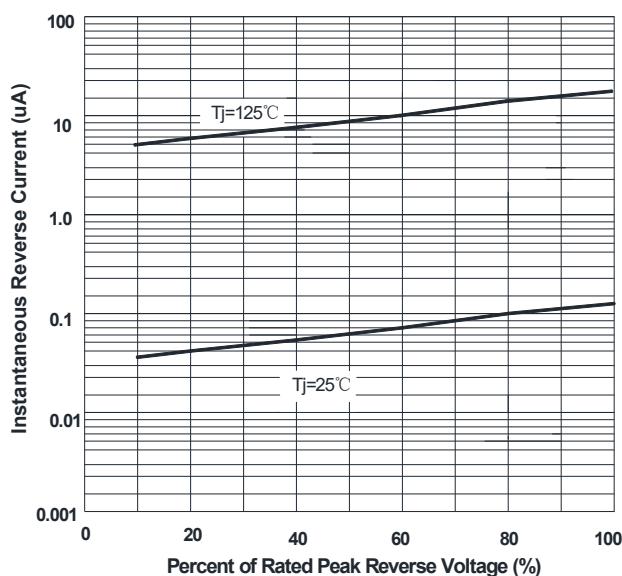


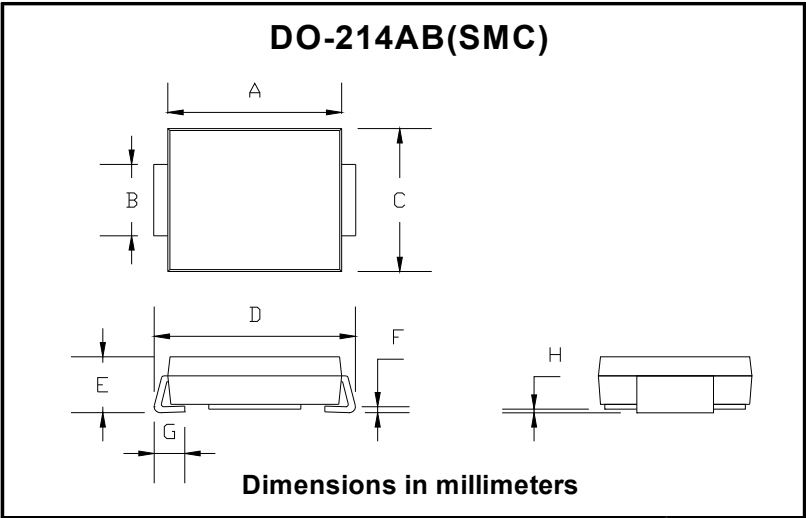
FIG.4: Typical Reverse Characteristics



## Ordering Information (Example)

| P/N     | PKG           | QTY  |
|---------|---------------|------|
| S8A-S8M | SMC(DO-214AB) | 3000 |

## Outline Dimensions



| DO-214AB (SMC) |      |      |
|----------------|------|------|
| Dim            | Min  | Max  |
| A              | 6.60 | 7.11 |
| B              | 2.85 | 3.27 |
| C              | 5.59 | 6.22 |
| D              | 7.75 | 8.13 |
| E              | 1.99 | 2.61 |
| F              | 0.15 | 0.31 |
| G              | 0.76 | 1.52 |
| H              | 0.05 | 0.20 |