

SMC Surface Mount General Purpose Rectifier

Features

- For surface mounted applications
- Low reverse leakage
- High forward surge current capability
- Glass passivated Standard rectifiers
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Applications

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

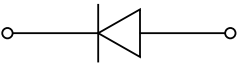
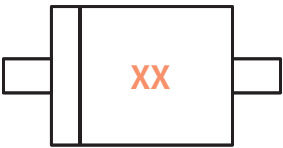
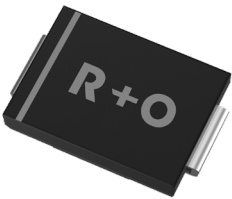
Mechanical Data

- Case: DO-214AB(SMC)
- Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

Function Diagram

Reverse Voltage  
50-1000 V  
Forward Current  
3 Ampere

DO-214AB(SMC)



Maximum Ratings (Ta=25°C Unless otherwise specified)

| PARAMETER                                                                              | SYMBOL                 | UNIT  | S3AC      | S3BC | S3DC | S3GC | S3JC | S3KC | S3MC |
|----------------------------------------------------------------------------------------|------------------------|-------|-----------|------|------|------|------|------|------|
| Device marking code                                                                    |                        |       | S3AC      | S3BC | S3DC | S3GC | S3JC | S3KC | S3MC |
| 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 |
| Maximum Average Forward Rectified Current @ 60Hz sinewave, Resistance load, TL (Fig.1) | $I_{F(AV)}$            | A     | 3.0       |      |      |      |      |      |      |
| Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave                     | $I_{FSM}$              | A     | 100       |      |      |      |      |      |      |
| Storage temperature                                                                    | $T_{stg}$              | °C    | -55 ~+150 |      |      |      |      |      |      |
| Junction temperature                                                                   | $T_j$                  | °C    | -55 ~+150 |      |      |      |      |      |      |
| Typical Thermal Resistance                                                             | $R_{\theta J-A}^{(1)}$ | °C /W | 47        |      |      |      |      |      |      |
|                                                                                        | $R_{\theta J-L}^{(1)}$ | °C /W | 17        |      |      |      |      |      |      |

Note : (1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" × 0.2" (5.0mm x 5.0 mm) copper pad areas

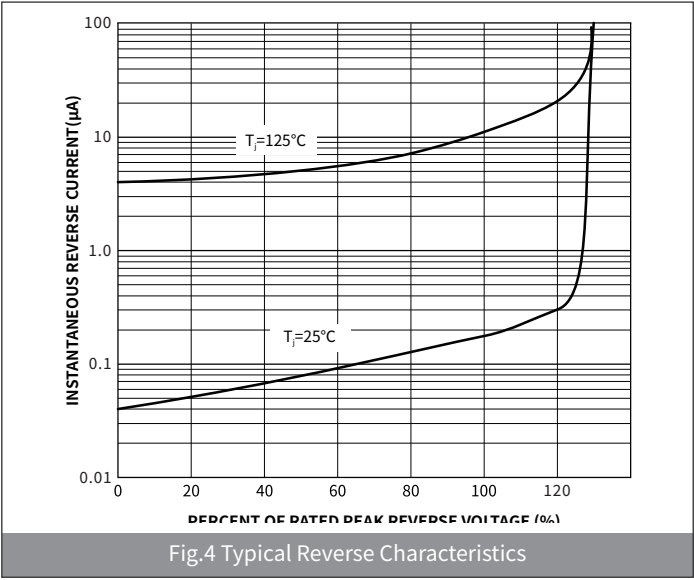
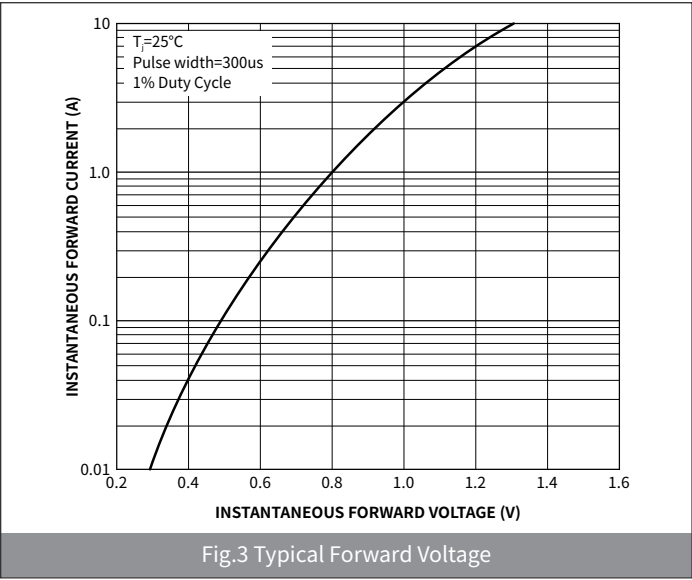
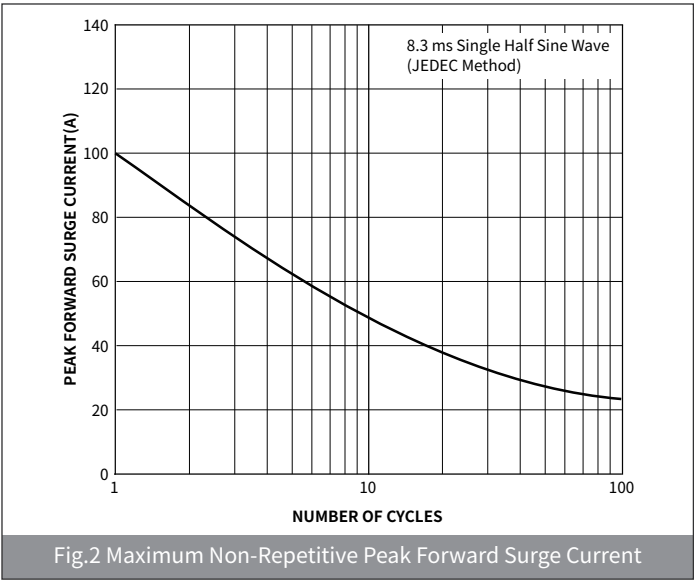
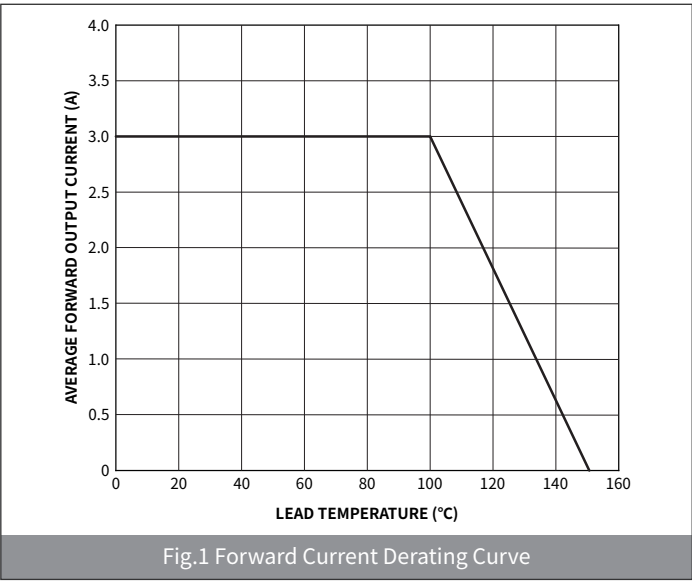
# S3AC THRU S3MC

SURFACE MOUNT GENERAL PURPOSE RECTIFIER

● **Electrical Characteristics** (Ta=25°C Unless otherwise noted)

| PARAMETER                                              | TEST CONDITIONS                | SYMBOL   | UNIT    | S3AC | S3BC | S3DC | S3GC | S3JC | S3KC | S3MC |
|--------------------------------------------------------|--------------------------------|----------|---------|------|------|------|------|------|------|------|
| Maximum instantaneous forward voltage                  | $I_F=3.0A$                     | $V_F$    | V       | 1.0  |      |      |      |      |      |      |
| Maximum DC reverse currentat rated DC blocking voltage | $V_R=V_{DC}, T_A=25^{\circ}C$  | $I_{R1}$ | $\mu A$ | 2.0  |      |      |      |      |      |      |
|                                                        | $V_R=V_{DC}, T_A=125^{\circ}C$ | $I_{R2}$ |         | 200  |      |      |      |      |      |      |
| Typical junction capacitance                           | 4.0V DC,1MHz                   | $C_J$    | pF      | 40   |      |      |      |      |      |      |

● **Ratings And Characteristics Curves** (Ta=25°C Unless otherwise specified)



# S3AC THRU S3MC

SURFACE MOUNT GENERAL PURPOSE RECTIFIER

## ● Ordering Information

| PACKAGE | PACKAGE CODE | UNIT WEIGHT(g) | REEL(pcs) | BOX(pcs) | CARTON(pcs) | DELIVERY MODE |
|---------|--------------|----------------|-----------|----------|-------------|---------------|
| SMC     | R3           | 0.257          | 3000      | 6000     | 48000       | 13"           |

## ● Package Outline Dimensions (SMC/DO-214AB)

| Symbol | Dimensions  |      |        |       |
|--------|-------------|------|--------|-------|
|        | Millimeters |      | Inches |       |
|        | Min.        | Max. | Min.   | Max.  |
| A      | 2.85        | 3.27 | 0.112  | 0.129 |
| B      | 6.60        | 7.11 | 0.261  | 0.281 |
| C      | 5.59        | 6.22 | 0.221  | 0.246 |
| D      | 1.99        | 2.61 | 0.078  | 0.103 |
| E      | 0.76        | 1.52 | 0.030  | 0.060 |
| F      | -           | 0.20 | -      | 0.008 |
| G      | 7.75        | 8.13 | 0.306  | 0.321 |
| H      | 0.15        | 0.31 | 0.006  | 0.012 |

## ● Suggested Pad Layout

| Symbol | Dimensions  |      |        |       |
|--------|-------------|------|--------|-------|
|        | Millimeters |      | Inches |       |
|        | Min.        | Max. | Min.   | Max.  |
| M      | 3.82        | -    | 0.151  | -     |
| J      | 3.03        | -    | 0.120  | -     |
| K      | -           | 3.84 | -      | 0.152 |