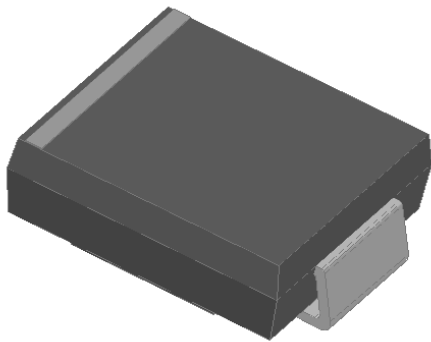


## Surface Mount Schottky Rectifier

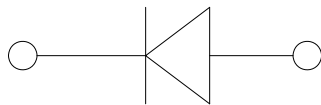


### Features

- Guardring for overvoltage protection
- Low power losses
- Extremely fast switching
- High forward surge capability
- High frequency operation
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Part no. with suffix "Q" means AEC-Q101 qualified

### Typical Applications

For use in low voltage high frequency inverters, freewheeling, DC/DC converters, automotive and polarity protection applications.



### 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:** Cathode line denotes the cathode end

### Absolute Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz resistive or inductive load, for capacitive load, derate by 20 %

| Parameter                                                                                                          | Symbols                                               | SS1040C        | SS1045 | SS1060 | SS10100 | SS10150 | SS10200 | Units            |
|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------|--------|--------|---------|---------|---------|------------------|
| Maximum Repetitive Peak Reverse Voltage                                                                            | $V_{RRM}$                                             | 40             | 45     | 60     | 100     | 150     | 200     | V                |
| Maximum RMS voltage                                                                                                | $V_{RMS}$                                             | 28             | 32     | 42     | 70      | 105     | 140     | V                |
| Maximum DC Blocking Voltage                                                                                        | $V_{DC}$                                              | 40             | 45     | 60     | 100     | 150     | 200     | V                |
| Maximum Average Forward Rectified Current @ Fig.1                                                                  | $I_{F(AV)}$                                           | 10             |        |        |         |         |         | A                |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)                  | $I_{FSM}$                                             | 150            |        |        |         |         |         | A                |
| Peak Forward Surge Current, 1.0ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)                  | $I_{FSM}$                                             | 300            |        |        |         |         |         | A                |
| $I^2t$ Rating for fusing (3ms ≤ t ≤ 8.3ms)                                                                         | $I^2t$                                                | 93.3           |        |        |         |         |         | A <sup>2</sup> S |
| Max Instantaneous Forward Voltage at 10 A                                                                          | $V_F$                                                 | 0.55           |        | 0.75   | 0.85    | 0.90    | 0.92    | V                |
| Maximum DC Reverse Current<br>$T_a = 25^\circ\text{C}$<br>at Rated DC Reverse Voltage<br>$T_a = 100^\circ\text{C}$ | $I_R$                                                 | 0.5<br>50      |        |        |         |         |         | mA               |
| Typical Junction Capacitance <sup>(1)</sup>                                                                        | $C_j$                                                 | 445            |        | 380    |         | 280     | 165     | pF               |
| Typical Thermal Resistance <sup>(2)</sup>                                                                          | $R_{\theta JA}$<br>$R_{\theta JC}$<br>$R_{\theta JL}$ | 37<br>10<br>13 |        |        |         |         |         | °C/W             |
| Operating Junction Temperature Range                                                                               | $T_j$                                                 | -55 ~ +125     |        |        |         |         |         | °C               |
| Storage Temperature Range                                                                                          | $T_{stg}$                                             | -55 ~ +150     |        |        |         |         |         | °C               |

(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

(2) P.C.B. mounted with 1.5" X 1.5" (3.81 X 3.81 cm) copper pad areas.

■ Characteristics (Typical)

Fig.1 Forward Current Derating Curve

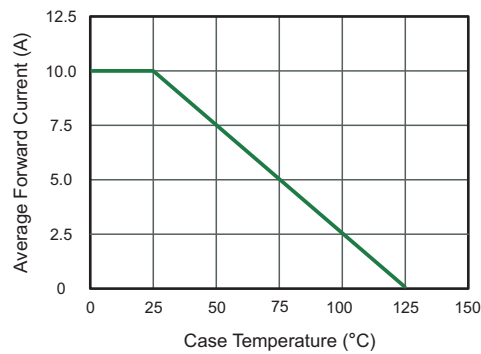


Fig.2 Typical Reverse Characteristics

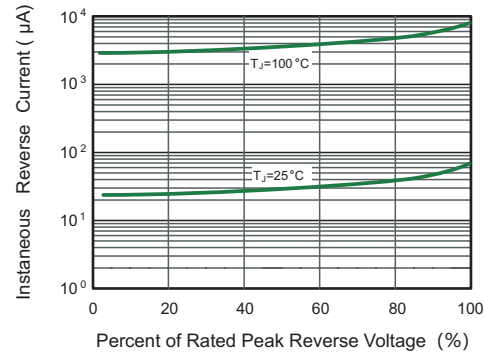


Fig.3 Typical Forward Characteristic

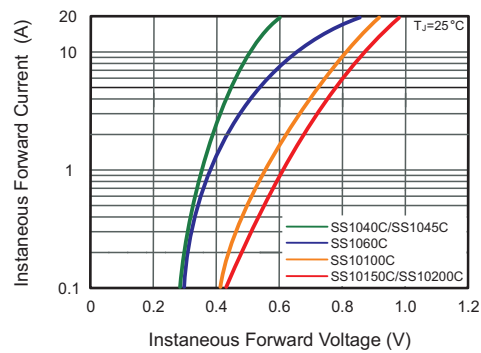


Fig.4 Typical Junction Capacitance

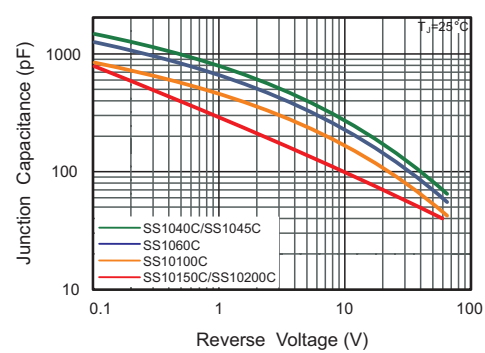
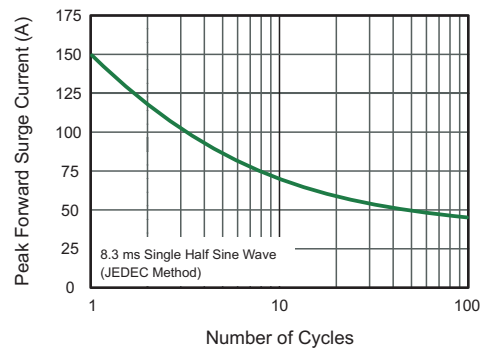


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

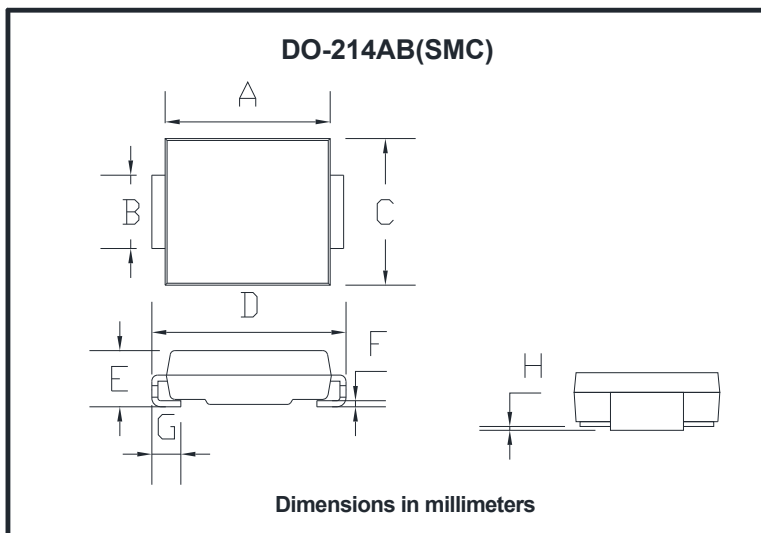


# SS1040 THRU SS10200

## ■ Ordering Information (Example)

| P/N            | PKG           | QTY  |
|----------------|---------------|------|
| SS1040-SS10200 | 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 |