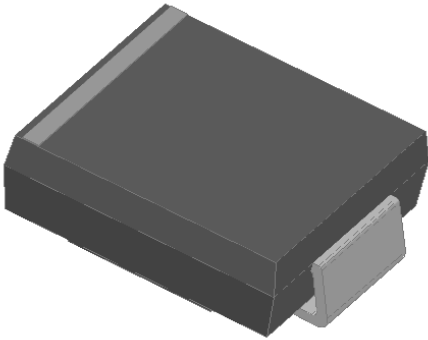


Surface Mount Schottky Rectifier

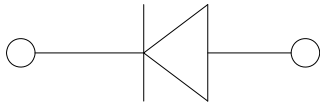


Features

- Guardring for overvoltage protection
- Low power loss
- 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
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Color band denotes the cathode end

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

| PARAMETER | SYMBOL | UNIT | SS810Q |
|---|-----------|------------------|-----------|
| Device marking code | | | SS810 |
| Repetitive peak reverse voltage | V_{RRM} | V | 100 |
| Maximum RMS voltage | V_{RMS} | V | 70 |
| Maximum DC blocking voltage | V_{DC} | V | 100 |
| Maximum average forward rectified current at T_L (Fig.1) | I_O | A | 8.0 |
| Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, $T_J=25^\circ\text{C}$ | I_{FSM} | A | 150 |
| Voltage rate of change (rated V_R) | dV/dt | V/ μs | 10000 |
| Storage temperature | T_{stg} | °C | -55 ~+175 |
| Junction temperature | T_J | °C | -55 ~+175 |

■ Electrical Characteristics (Ta=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | TYP | MAX | UNIT | |
|-------------------------------|--------|--------------------------------|-------------------------|------|------|---------------|
| Instantaneous forward voltage | V_F | $I_F=8\text{A}$ | $T_J=25^\circ\text{C}$ | 0.76 | 0.85 | V |
| | | | $T_J=125^\circ\text{C}$ | - | 0.7 | |
| Reverse current | I_R | Rated V_R | $T_J=25^\circ\text{C}$ | 0.8 | 10 | μA |
| | | | $T_J=125^\circ\text{C}$ | - | 200 | |
| Typical junction capacitance | C_J | $V_R=4\text{V}, f=1\text{MHz}$ | 270 | - | pF | |



SS810Q

■ Thermal Characteristics (Ta=25°C Unless otherwise specified)

| PARAMETER | | SYMBOL | UNIT | SS810Q |
|--------------------|------------------------------|------------------|------|-------------------|
| Thermal Resistance | Between junction and ambient | $R_{\theta J-A}$ | °C/W | 45 ⁽¹⁾ |
| | Between junction and lead | $R_{\theta J-L}$ | | 12 ⁽¹⁾ |

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

■ Ordering Information (Example)

| PREFERRED P/N | PACKAGE CODE | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|-------------------|----------------------|----------------------------|---------------|
| SS810Q | F1 | Approximate 0.254 | 3000 | 42000 | 13" reel |

■ Characteristics (Typical)

Fig.1:Forward Current Derating Curve

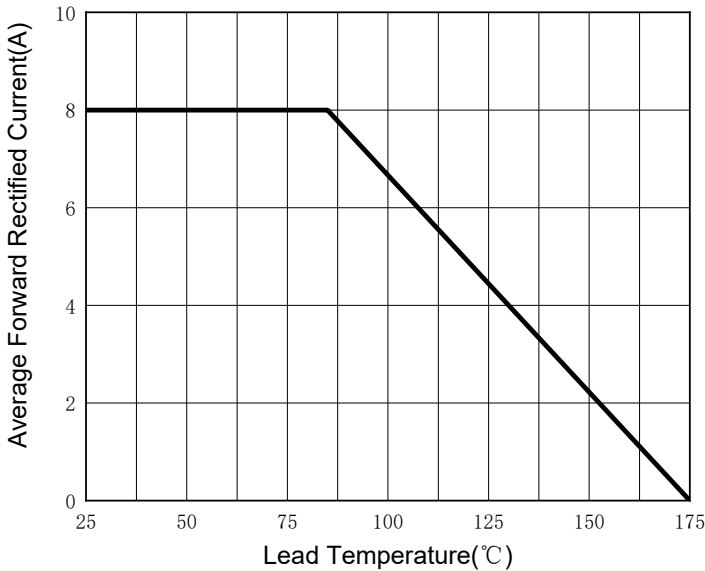


Fig.2:Maximum Non-Repetitive Peak Forward Surge Current

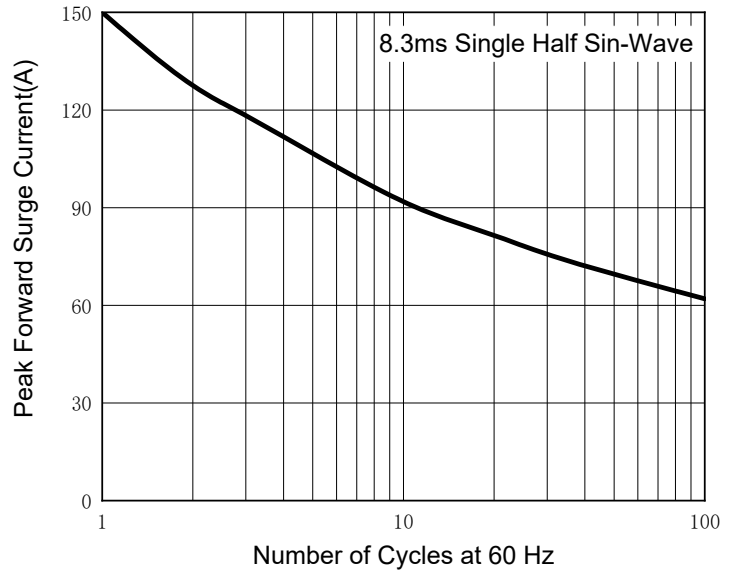


Fig.3:Typical Instantaneous Forward Characteristics

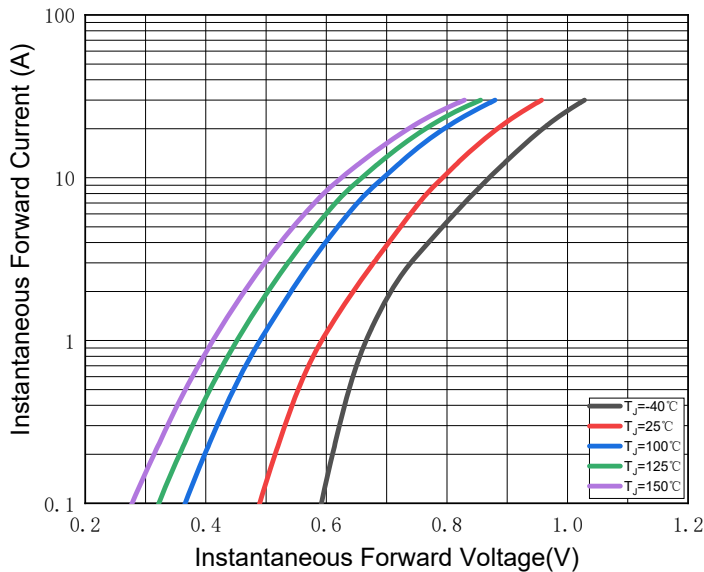
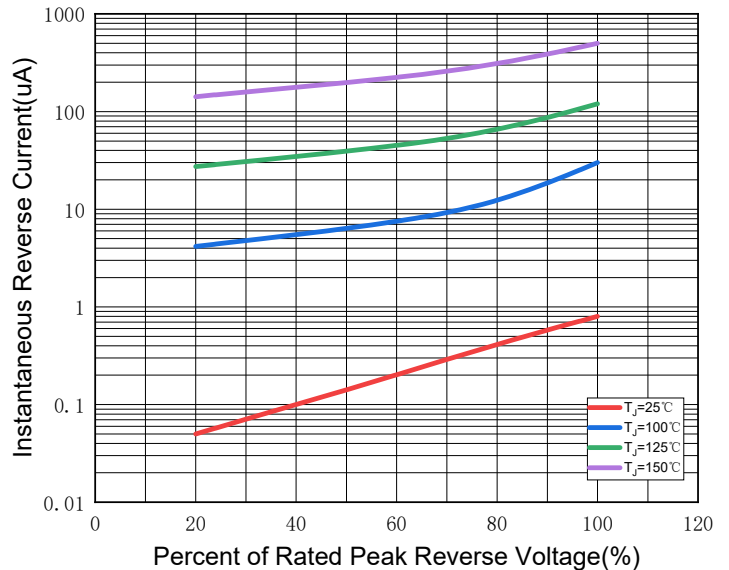
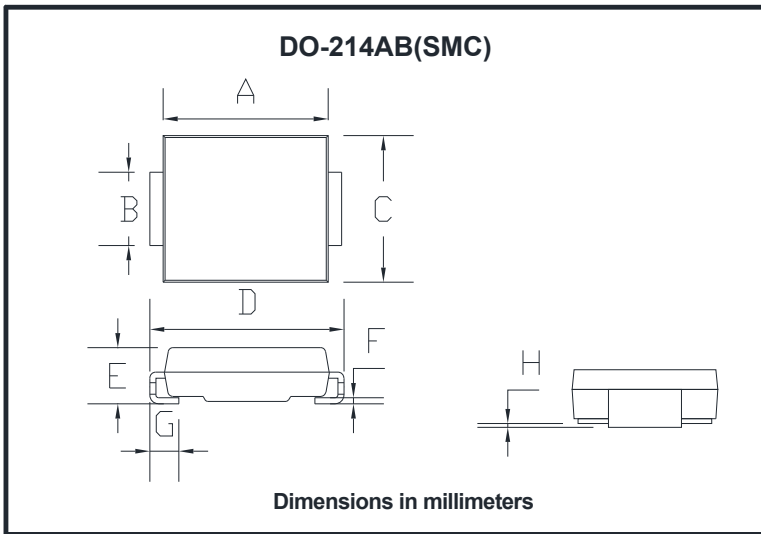


Fig.4:Typical Reverse Leakage Characteristics

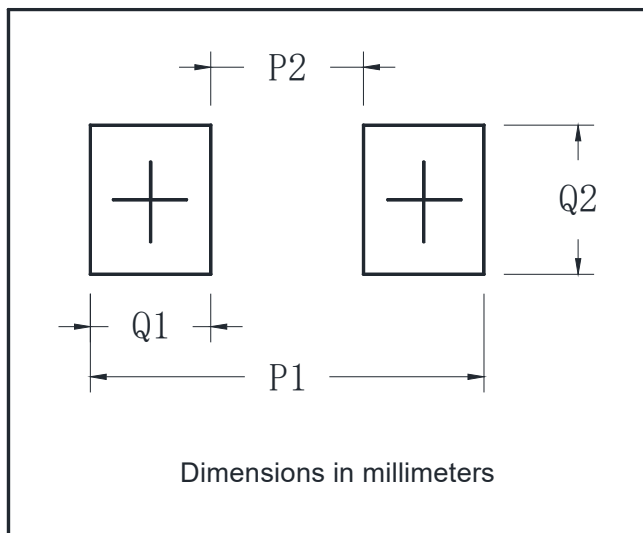


■ Outline Dimensions



| 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 |

■ Suggested pad layout



| DO-214AB (SMC) | |
|----------------|------|
| Dim | Min |
| P1 | 9.9 |
| P2 | 3.84 |
| Q1 | 3.03 |
| Q2 | 3.82 |



SS810Q

Disclaimer

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