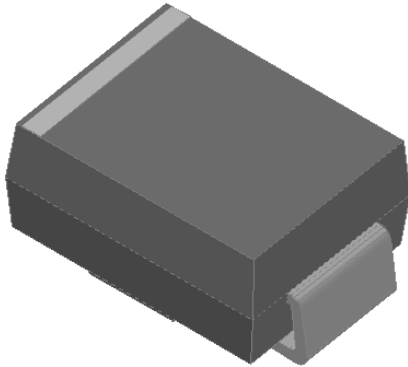


## Surface Mount Schottky Rectifier

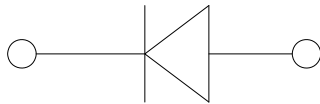


### Features

- Guard ring 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-214AA (SMB)  
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

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

| PARAMETER   | SYMBOL           | UNIT | SS315BQ   | SS320BQ |
|---|------------------|------|-----------|---------|
| Device marking code   |                  |      | SS315B    | SS320B  |
| Repetitive peak reverse voltage   | V <sub>RRM</sub> | V    | 150       | 200     |
| Maximum RMS voltage   | V <sub>RMS</sub> | V    | 105       | 140     |
| Maximum DC blocking voltage   | V <sub>DC</sub>  | V    | 150       | 200     |
| Maximum average forward rectified current at T <sub>L</sub> (Fig.1)                     | I <sub>o</sub>   | A    | 3.0       |         |
| Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, T <sub>J</sub> =25°C | I <sub>FSM</sub> | A    | 80        |         |
| Voltage rate of change (rated V <sub>R</sub> )  | dV/dt            | V/μs | 10000     |         |
| Storage temperature   | T <sub>stg</sub> | °C   | -55 ~+175 |         |
| Junction temperature and storage temperature  | T <sub>J</sub>   | °C   | -55 ~+175 |         |

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

| PARAMETER                     | SYMBOL         | TEST CONDITIONS           | TYP                   | MAX  | UNIT |    |
|-------------------------------|----------------|---------------------------|-----------------------|------|------|----|
| Instantaneous forward voltage | V <sub>F</sub> | I <sub>F</sub> =3A        | T <sub>J</sub> =25°C  | 0.81 | 0.9  | V  |
|                               |                |                           | T <sub>J</sub> =125°C | 0.68 | 0.75 |    |
| Reverse current               | I <sub>R</sub> | Rated V <sub>R</sub>      | T <sub>J</sub> =25°C  | -    | 1    | μA |
|                               |                |                           | T <sub>J</sub> =125°C | -    | 150  |    |
| Typical junction capacitance  | C <sub>J</sub> | V <sub>R</sub> =4V,f=1MHz | 60                    | -    | pF   |    |



# SS315BQ THRU SS320BQ

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

| PARAMETER          | SYMBOL           | UNIT | SS315BQ           | SS320BQ |
|--------------------|------------------|------|-------------------|---------|
| Thermal Resistance | $R_{\theta J-A}$ | °C/W | 63 <sup>(1)</sup> |         |
|                    | $R_{\theta J-L}$ |      | 23 <sup>(1)</sup> |         |

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 16mm) copper pad areas

## ■ Characteristics(Typical)

Fig.1:Forward Current Derating Curve

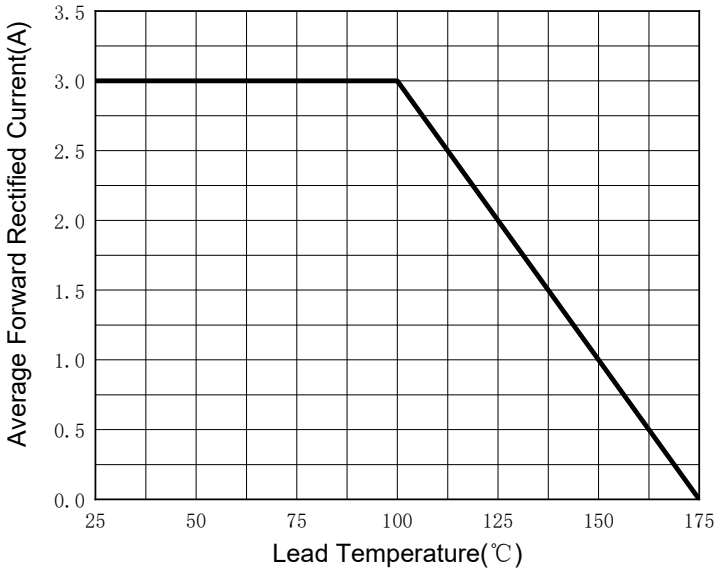


Fig.2:Maximum Non-Repetitive Peak Forward Surge Current

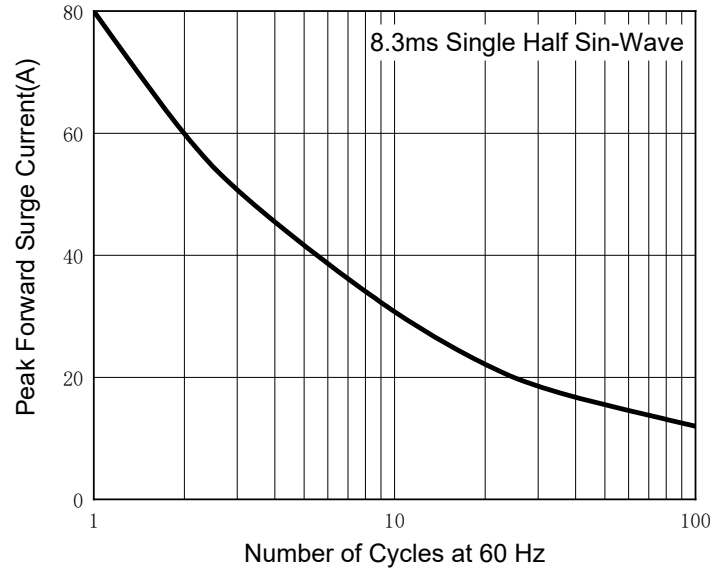


Fig.3:Typical Instantaneous Forward Characteristics

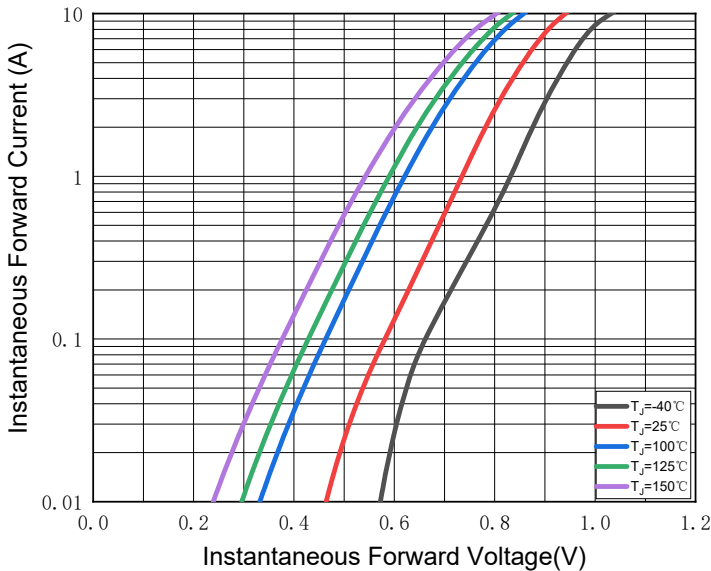
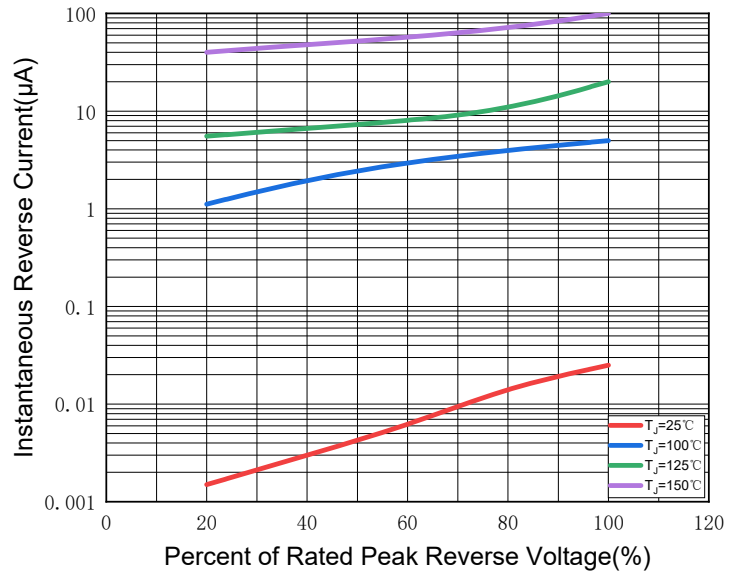


Fig.4:Typical Reverse Leakage Characteristics



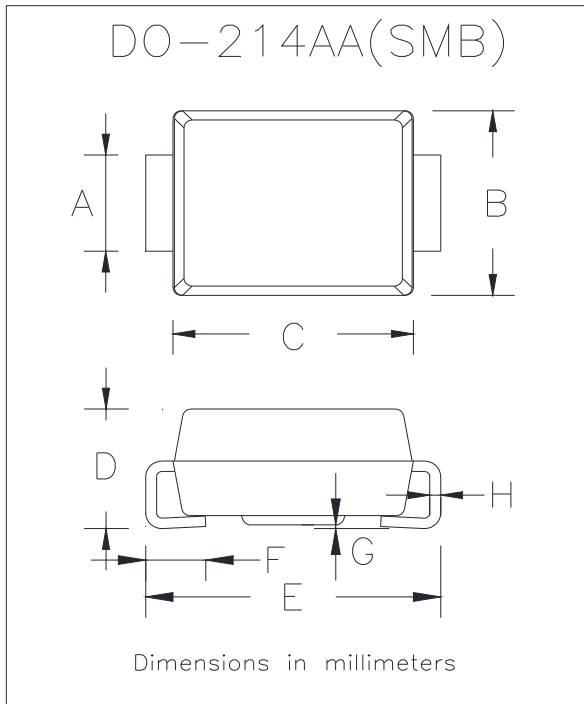
## ■ Ordering Information (Example)

| PREFERRED P/N   | PACKING CODE | UNIT WEIGHT(g)     | MINIMUM PACKAGE(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|-----------------|--------------|--------------------|----------------------|----------------------------|---------------|
| SS315BQ-SS320BQ | F1           | Approximate 0.1003 | 3000                 | 48000                      | 13" reel      |



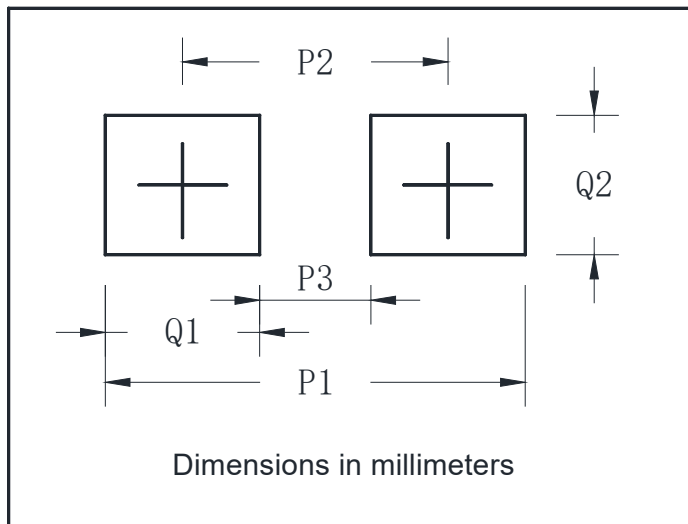
## SS315BQ THRU SS320BQ

### ■ Outline Dimensions



| DO-214AA(SMB) |      |      |
|---------------|------|------|
| Dim           | Min  | Max  |
| A             | 1.85 | 2.15 |
| B             | 3.30 | 3.94 |
| C             | 4.05 | 4.75 |
| D             | 1.99 | 2.61 |
| E             | 5.21 | 5.59 |
| F             | 0.90 | 1.41 |
| G             | 0.10 | 0.20 |
| H             | 0.15 | 0.31 |

### ■ Suggested pad layout



| DO-214AA(SMB) |             |
|---------------|-------------|
| Dim           | Millimeters |
| P1            | 6.8         |
| P2            | 4.3         |
| P3            | 1.8         |
| Q1            | 2.5         |
| Q2            | 2.3         |



## SS315BQ THRU SS320BQ

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