



# SS12G THRU SS120G

## Surface Mount Schottky Barrier Rectifier

Reverse Voltage -20V to 200V

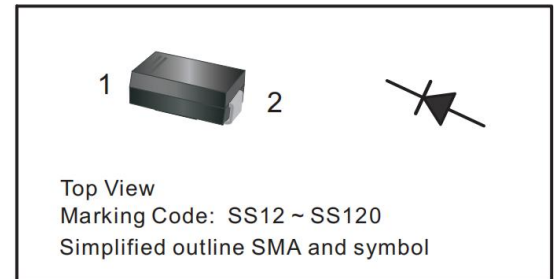
Forward Current -1.0A

### Features

- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

### PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Cathode     |
| 2   | Anode       |



## 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                                                                                             |                       | Symbol             | SS<br>12G | SS<br>14G | SS<br>16G | SS<br>18G | SS<br>110G | SS<br>112G | SS<br>115G | SS<br>120G | Unit |
|-------------------------------------------------------------------------------------------------------|-----------------------|--------------------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------|
| Maximum Repetitive Peak Reverse Voltage                                                               |                       | V <sub>RRM</sub>   | 20        | 40        | 60        | 80        | 100        | 120        | 150        | 200        | V    |
| Maximum RMS Voltage                                                                                   |                       | V <sub>RMS</sub>   | 14        | 28        | 42        | 56        | 70         | 84         | 105        | 140        | V    |
| Maximum DC Blocking Voltage                                                                           |                       | V <sub>DC</sub>    | 20        | 40        | 60        | 80        | 100        | 120        | 150        | 200        | V    |
| Maximum Average Forward Rectified Current                                                             |                       | I <sub>F(AV)</sub> | 1.0       |           |           |           |            |            |            |            | A    |
| Peak Forward Surge Current,8.3ms<br>Single Half Sine-wave Superimposed<br>On Rated Load(JEDEC method) |                       | I <sub>FSM</sub>   | 25        |           |           |           |            |            |            |            | A    |
| Peak Forward Surge Current,1.0ms<br>Single Half Sine-wave Superimposed<br>On Rated Load(JEDEC method) |                       | I <sub>FSM</sub>   | 50        |           |           |           |            |            |            |            | A    |
| I²t Rating for fusing (3ms≤8.3ms)                                                                     |                       | I²t                | 2.6       |           |           |           |            |            |            |            | A²S  |
| Max Instantaneous Forward Voltage at 1A                                                               |                       | V <sub>F</sub>     | 0.55      |           | 0.70      | 0.85      |            |            |            | 0.90       | V    |
| Maximum DC Reverse Current<br>at Rated DC Reverse Voltage                                             | T <sub>a</sub> = 25°C | I <sub>R</sub>     | 0.3       |           |           | 0.2       |            | 0.1        |            |            | mA   |
|                                                                                                       | T <sub>a</sub> =100°C |                    | 10        |           |           | 5         |            | 2          |            |            |      |
| Typical Junction Capacitance <sup>(1)</sup>                                                           |                       | C <sub>j</sub>     | 55        | 41        | 33        | 32        |            | 19         |            | 16         | pF   |
| Typical Thermal Resistance <sup>(2)</sup>                                                             |                       | R <sub>θJA</sub>   | 100       |           |           |           |            |            |            |            | °C/W |
|                                                                                                       |                       | R <sub>θJC</sub>   | 20        |           |           |           |            |            |            |            |      |
|                                                                                                       |                       | R <sub>θJL</sub>   | 25        |           |           |           |            |            |            |            |      |
| Operating Junction Temperature Range                                                                  |                       | T <sub>j</sub>     | -55~+125  |           |           |           |            |            |            |            | °C   |
| Storage Temperature Range                                                                             |                       | T <sub>stg</sub>   | -55~+150  |           |           |           |            |            |            |            | °C   |

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

(2) P.C.B. mounted with 2.0"x2.0" (5x5cm) copper pad areas



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## Typical Characteristics

Fig.1 Forward Current Derating Curve

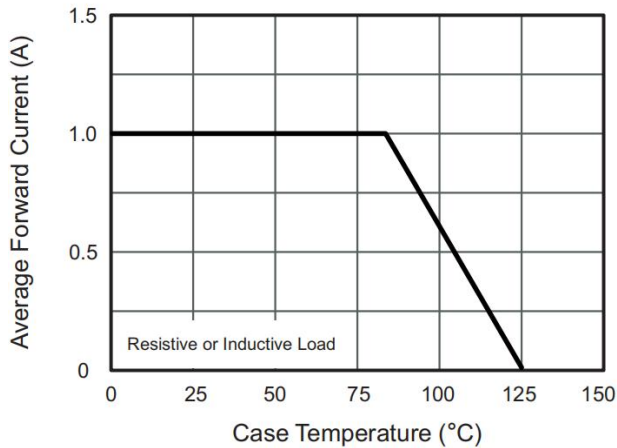


Fig.2 Typical Reverse Characteristics

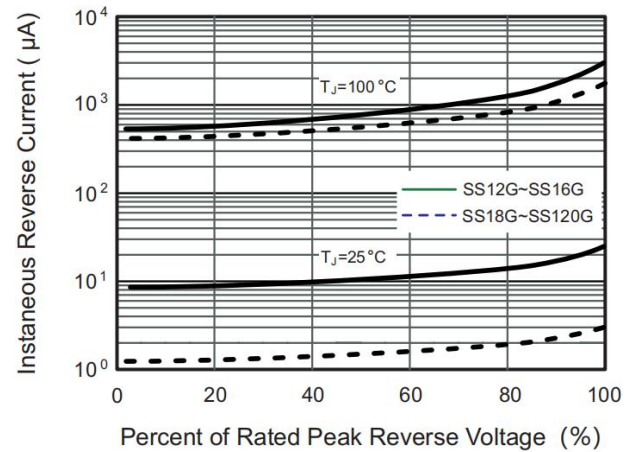


Fig.3 Typical Forward Characteristic

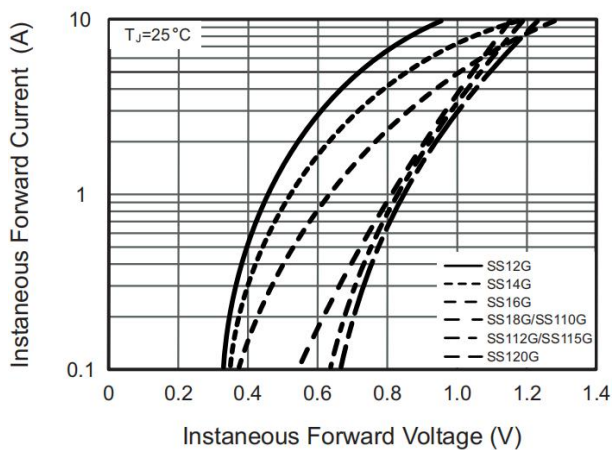


Fig.4 Typical Junction Capacitance

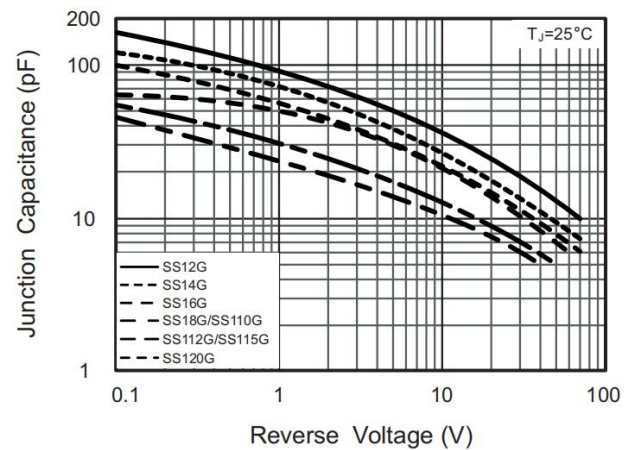
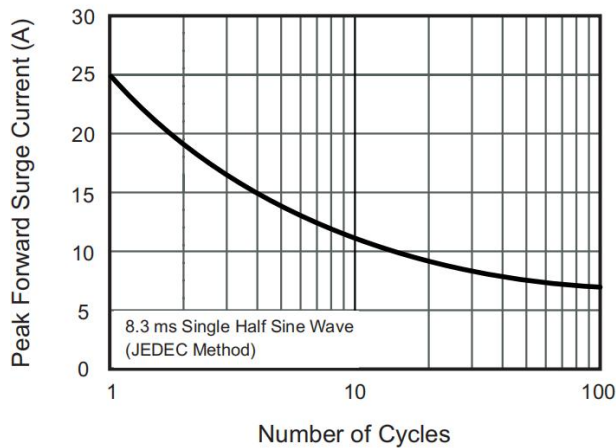


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



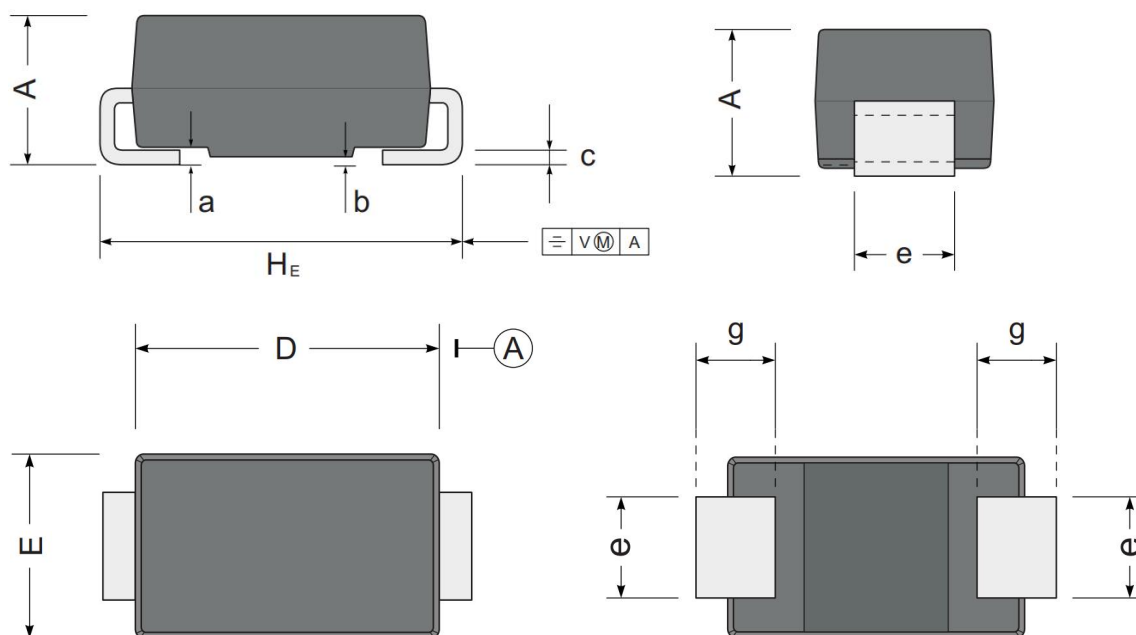


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## Package Information

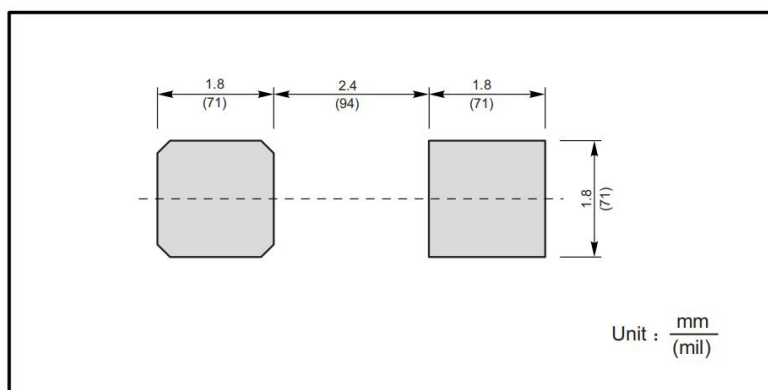
### SMA

### Dimensions in mm



| UNIT |     | A   | D   | E   | H <sub>E</sub> | c    | e   | g   | b    | a   |
|------|-----|-----|-----|-----|----------------|------|-----|-----|------|-----|
| mm   | max | 2.2 | 4.5 | 2.7 | 5.2            | 0.31 | 1.6 | 1.5 | 0.2  | 0.3 |
|      | min | 1.9 | 4.0 | 2.3 | 4.7            | 0.15 | 1.3 | 0.9 | 0.05 |     |
| mil  | max | 87  | 181 | 106 | 205            | 12   | 63  | 59  | 7.9  | 12  |
|      | min | 75  | 157 | 91  | 185            | 6    | 51  | 35  | 2    |     |

### The recommended mounting pad size



### Marking

| Type number | Marking code |
|-------------|--------------|
| SS12G       | SS12         |
| SS14G       | SS14         |
| SS16G       | SS16         |
| SS18G       | SS18         |
| SS110G      | SS110        |
| SS112G      | SS112        |
| SS115G      | SS115        |
| SS120G      | SS120        |



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