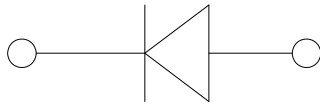
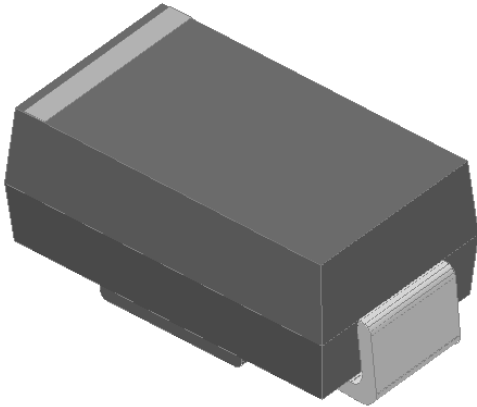


## Surface Mount Schottky Rectifier



### Features

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

### Typical Applications

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

### Mechanical Data

- **Package:** DO-214AC (SMA)  
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 | SS        |     |     |           |     |     |      |      |      |
|-------------------------------------------------------------------------------------------------|------------------|------|-----------|-----|-----|-----------|-----|-----|------|------|------|
|                                                                                                 |                  |      | 12A       | 13A | 14A | 15A       | 16A | 18A | 110A | 115A | 120A |
| Device marking code                                                                             |                  |      | SS        |     |     |           |     |     |      |      |      |
|                                                                                                 |                  |      | 12A       | 13A | 14A | 15A       | 16A | 18A | 110A | 115A | 120A |
| Repetitive peak reverse voltage                                                                 | V <sub>RRM</sub> | V    | 20        | 30  | 40  | 50        | 60  | 80  | 100  | 150  | 200  |
| Average rectified output current<br>@60Hz sine wave, resistance load,<br>T <sub>a</sub> (FIG.1) | I <sub>O</sub>   | A    | 1.0       |     |     |           |     |     |      |      |      |
| Surge(non-repetitive)forward current<br>@60Hz half-sine wave,1 cycle, T <sub>a</sub> =25°C      | I <sub>FSM</sub> | A    | 30        |     |     |           |     |     |      |      |      |
| Storage temperature                                                                             | T <sub>stg</sub> | °C   | -55 ~+150 |     |     |           |     |     |      |      |      |
| Junction temperature                                                                            | T <sub>j</sub>   | °C   | -55~+125  |     |     | -55 ~+150 |     |     |      |      |      |

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

| PARAMETER                                                                                            | SYMBOL           | UNIT | TEST CONDITIONS       | SS   |     |     |      |     |      |      |      |      |
|------------------------------------------------------------------------------------------------------|------------------|------|-----------------------|------|-----|-----|------|-----|------|------|------|------|
|                                                                                                      |                  |      |                       | 12A  | 13A | 14A | 15A  | 16A | 18A  | 110A | 115A | 120A |
| Maximum instantaneous forward voltage drop per diode                                                 | V <sub>F</sub>   | V    | I <sub>FM</sub> =1.0A | 0.50 |     |     | 0.70 |     | 0.85 |      | 0.90 |      |
| Maximum DC reverse current at rated DC blocking voltage per diode@ V <sub>RM</sub> =V <sub>RRM</sub> | I <sub>RRM</sub> | mA   | T <sub>a</sub> =25°C  | 0.50 |     |     |      |     | 0.10 |      |      |      |
|                                                                                                      |                  |      | T <sub>a</sub> =100°C | 10   |     |     |      |     | 5.0  |      |      |      |

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

| PARAMETER          | SYMBOL            | UNIT | SS               |     |     |     |     |     |      |      |      |
|--------------------|-------------------|------|------------------|-----|-----|-----|-----|-----|------|------|------|
|                    |                   |      | 12A              | 13A | 14A | 15A | 16A | 18A | 110A | 115A | 120A |
| Thermal resistance | R <sub>θJ-A</sub> | °C/W | 65 <sup>1)</sup> |     |     |     |     |     |      |      |      |
|                    | R <sub>θJ-L</sub> |      | 20 <sup>1)</sup> |     |     |     |     |     |      |      |      |

Note

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



# SS12A THRU SS120A

## ■ Characteristics (Typical)

FIG1:  $I_o$ -TL Curve

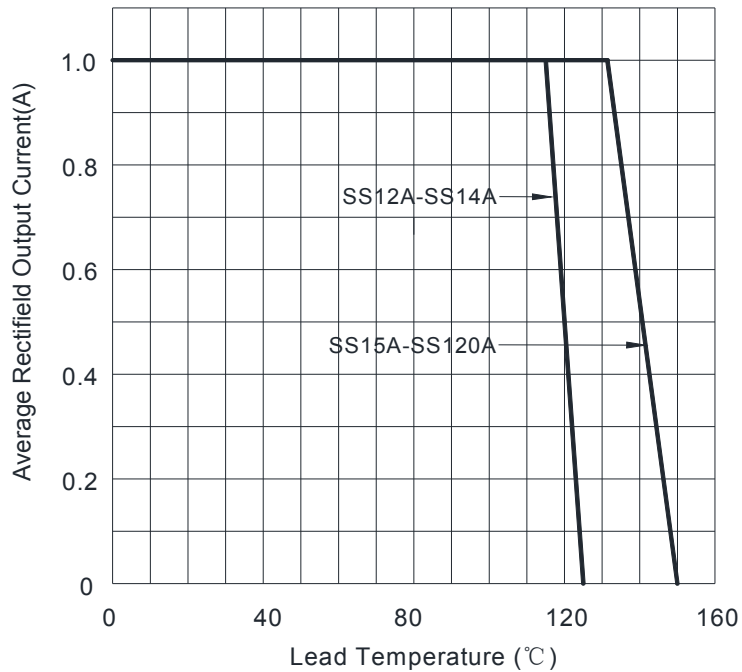


FIG2: Surge Forward Current Capability

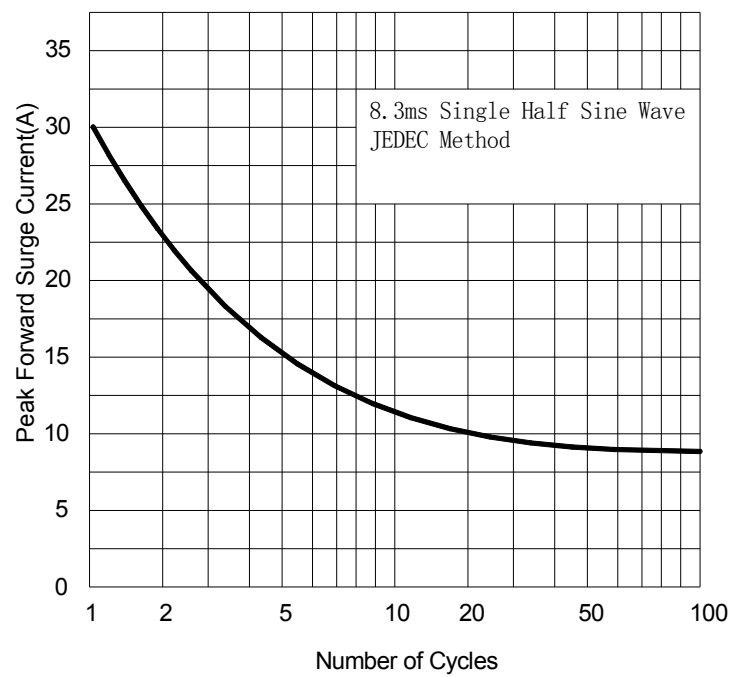


FIG3: TYPICAL FORWARD CHARACTERISTICS

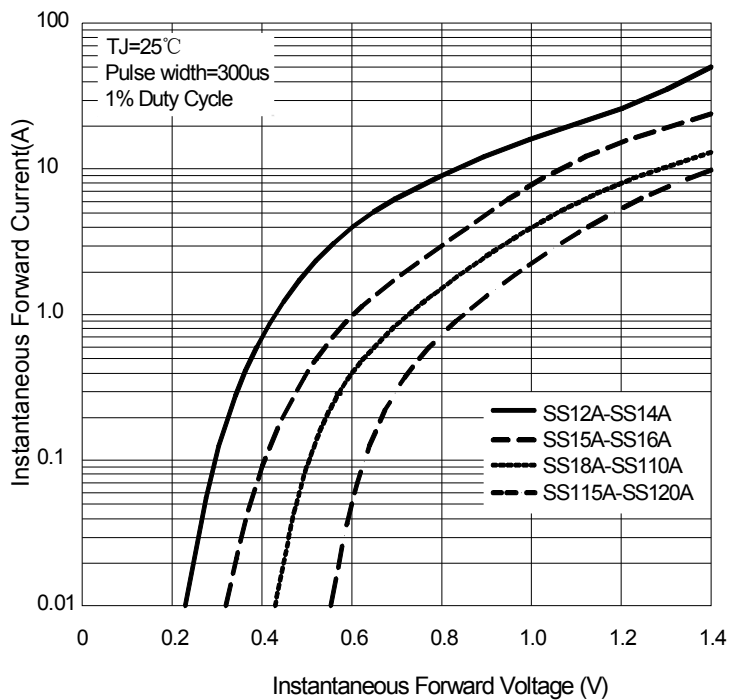
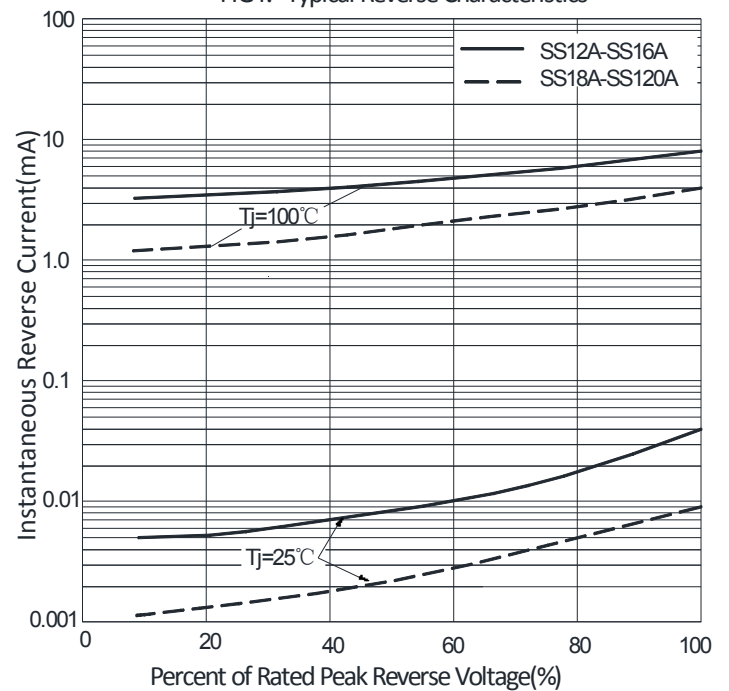


FIG4: Typical Reverse Characteristics



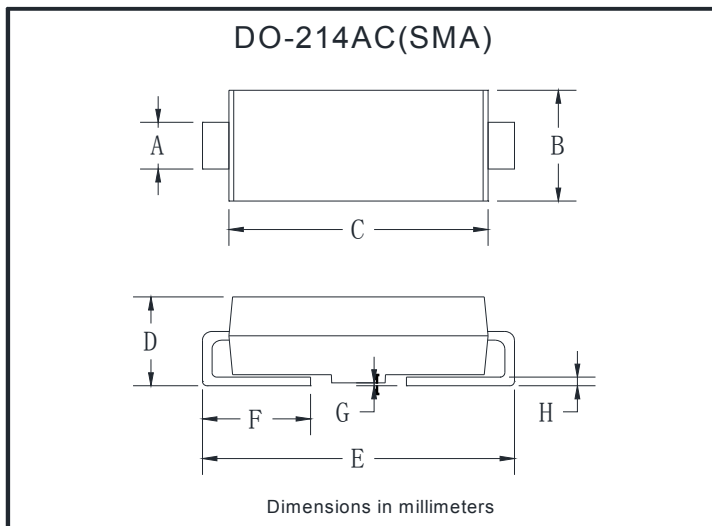


## SS12A THRU SS120A

### ■ Ordering Information (Example)

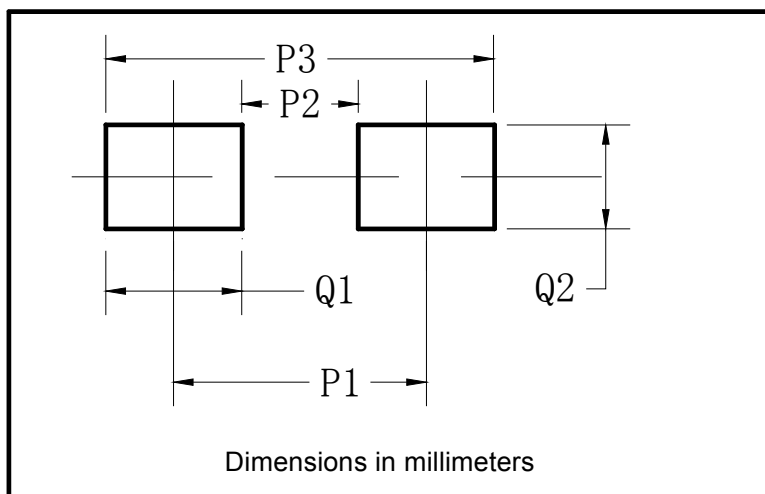
| PREFERRED P/N | PACKAGE CODE | UNIT WEIGHT(g)    | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| SS12A-SS120A  | F1           | Approximate 0.059 | 5000                 | 10000                   | 80000                      | 13" reel      |
| SS12A-SS120A  | F2           | Approximate 0.059 | 7500                 | 15000                   | 120000                     | 13" reel      |
| SS12A-SS120A  | F3           | Approximate 0.059 | 7500                 | 15000                   | 60000                      | 13" reel      |
| SS12A-SS120A  | F4           | Approximate 0.059 | 1800                 | 7200                    | 57600                      | 7" reel       |
| SS12A-SS120A  | F5           | Approximate 0.059 | 2000                 | 8000                    | 64000                      | 7" reel       |
| SS12A-SS120A  | F6           | Approximate 0.059 | 5000                 | 10000                   | 100000                     | 13" reel      |

### ■ Outline Dimensions



| DO-214AC(SMA) |      |      |
|---------------|------|------|
| Dim           | Min  | Max  |
| A             | 1.25 | 1.58 |
| B             | 2.40 | 2.83 |
| C             | 4.25 | 4.75 |
| D             | 1.90 | 2.30 |
| E             | 4.93 | 5.28 |
| F             | 0.76 | 1.41 |
| G             | 0.08 | 0.20 |
| H             | 0.15 | 0.31 |

### ■ Suggested Pad Layout



| DO-214AC(SMA) |             |
|---------------|-------------|
| Dim           | Millimeters |
| P1            | 4.00        |
| P2            | 1.50        |
| P3            | 6.50        |
| Q1            | 2.50        |
| Q2            | 1.70        |



## SS12A THRU SS120A

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