

## 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

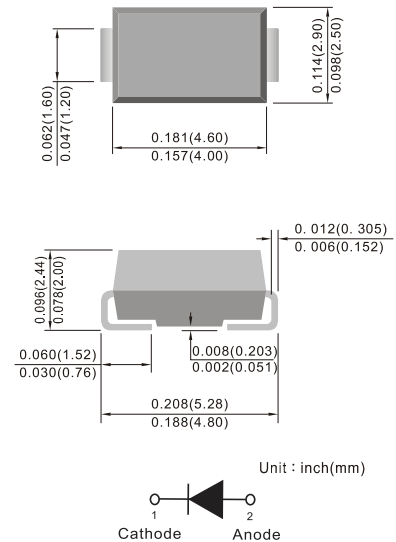
### Typical Applications

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

### DO-214AC (SMA)



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

| PARAMETER   | SYMBOL           | UNIT | SS        |    |    |    |    |           |     |     |     |  |
|---|------------------|------|-----------|----|----|----|----|-----------|-----|-----|-----|--|
|   |                  |      | 52        | 53 | 54 | 55 | 56 | 58        | 510 | 515 | 520 |  |
| 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, TL (FIG.1)            | I <sub>O</sub>   | A    | 5.0       |    |    |    |    |           |     |     |     |  |
| Surge(non-repetitive)forward current<br>@ 60Hz half-sine wave,1 cycle, T <sub>a</sub> =25°C | I <sub>FSM</sub> | A    | 150       |    |    |    |    |           |     |     |     |  |
| Storage temperature   | T <sub>stg</sub> | °C   | -55 ~+150 |    |    |    |    |           |     |     |     |  |
| Junction temperature  | T <sub>j</sub>   | °C   | -55 ~+150 |    |    |    |    | -55 ~+175 |     |     |     |  |

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

| PARAMETER  | SYMBOL           | UNIT | TEST CONDITIONS       | SS   |    |    |      |    |      |     |      |     |  |
|--|------------------|------|-----------------------|------|----|----|------|----|------|-----|------|-----|--|
|  |                  |      |                       | 52   | 53 | 54 | 55   | 56 | 58   | 510 | 515  | 520 |  |
| Maximum instantaneous forward voltage drop per diode   | V <sub>F</sub>   | V    | I <sub>FM</sub> =5.0A | 0.55 |    |    | 0.70 |    | 0.85 |     | 0.95 |     |  |
| 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  | 0.5  |    |    |      |    | 0.1  |     |      |     |  |
|  |                  |      | T <sub>a</sub> =100°C | 10   |    |    |      |    | 5    |     |      |     |  |

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

| PARAMETER          | SYMBOL           | UNIT | SS                |    |    |    |    |    |     |     |     |  |
|--------------------|------------------|------|-------------------|----|----|----|----|----|-----|-----|-----|--|
|                    |                  |      | 52                | 53 | 54 | 55 | 56 | 58 | 510 | 515 | 520 |  |
| Thermal resistance | R <sub>θJA</sub> | °C/W | 60 <sup>(1)</sup> |    |    |    |    |    |     |     |     |  |
|                    | R <sub>θJL</sub> |      | 22 <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



■ Characteristics (Typical)

FIG1: I<sub>o</sub>-TL Curve

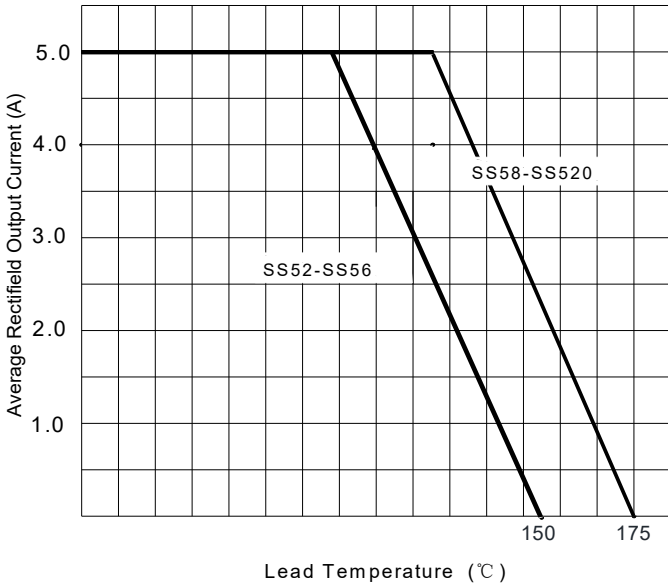


FIG2: Surge Forward Current Capability

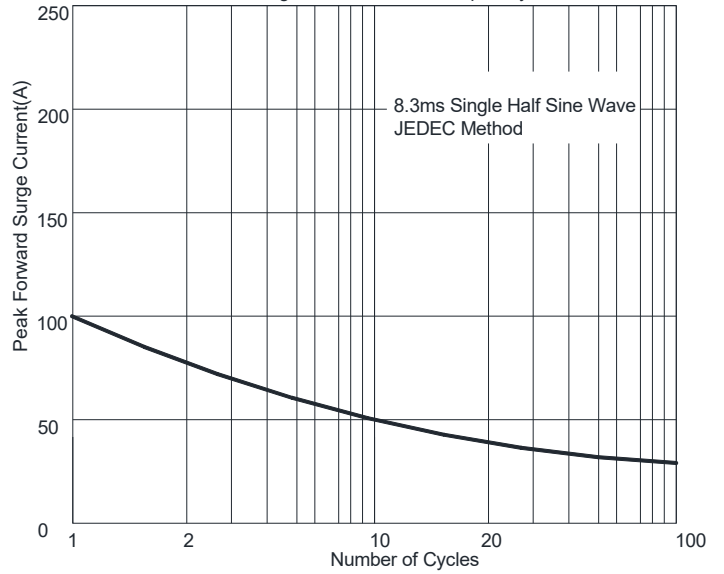


FIG3: TYPICAL FORWARD CHARACTERISTICS

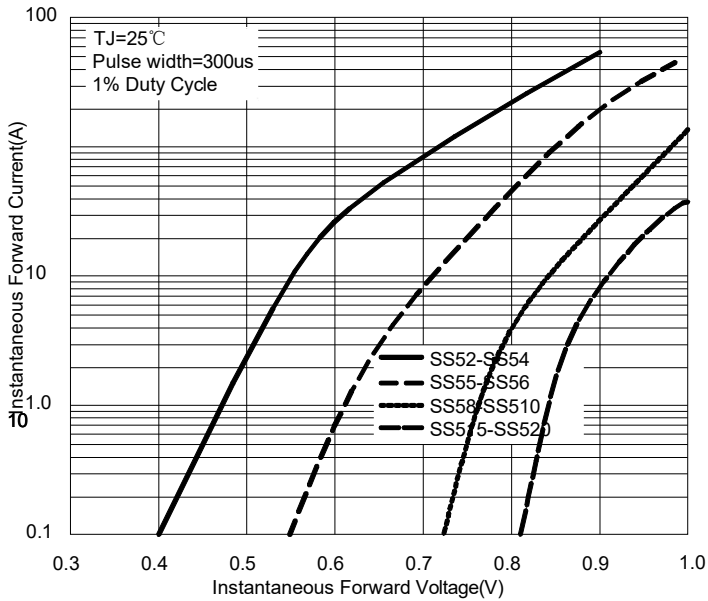


FIG4: Typical Reverse Characteristics

