

**Features**

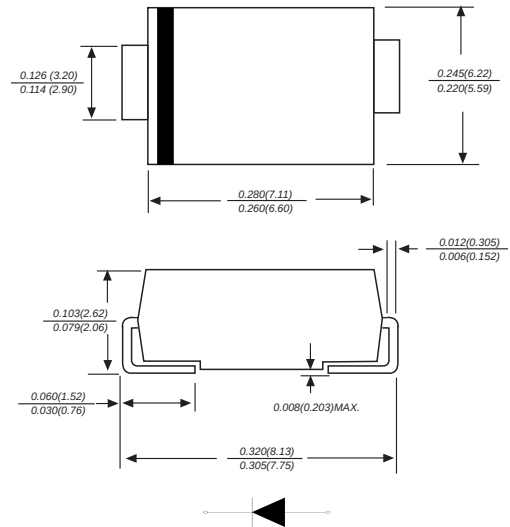
- Guardring for overvoltage protection
- Low power loss
- Extremely fast switching
- High forward surge capability
- High frequency operation
- Solder dip 260 °C max. 10 s, per JESD 22-B106

**Typical Applications**

For use in low voltage high frequency inverters, freewheeling, DC/DC converters, 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

**DO-214AB/SMC**

Dimensions in inches and (millimeters)

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

| PARAMETER                                                                        | SYMBOL    | UNIT | SS82      | SS84 | SS86      | SS810 | SS8150 | SS820 |
|----------------------------------------------------------------------------------|-----------|------|-----------|------|-----------|-------|--------|-------|
| Device marking code                                                              |           |      | SS82      | SS84 | SS86      | SS810 | SS815  | SS820 |
| Repetitive Peak Reverse Voltage                                                  | $V_{RRM}$ | V    | 20        | 40   | 60        | 100   | 150    | 200   |
| Average Rectified Output Current<br>@60Hz sine wave, Resistance load, Ta (FIG.1) | $I_O$     | A    | 8.0       |      |           |       |        |       |
| Surge(Non-repetitive)Forward Current<br>@60Hz Half-sine wave,1 cycle, Ta=25°C    | $I_{FSM}$ | A    | 120       |      |           |       |        |       |
| Storage Temperature                                                              | $T_{stg}$ | °C   | -55 ~+150 |      |           |       |        |       |
| Junction Temperature                                                             | $T_j$     | °C   | -55~+125  |      | -55 ~+150 |       |        |       |

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

| PARAMETER                                                         | SYMBOL         | UNIT | TEST CONDITIONS                                            | SS82 | SS84 | SS86 | SS810 | SS815 | SS820 |
|-------------------------------------------------------------------|----------------|------|------------------------------------------------------------|------|------|------|-------|-------|-------|
| Maximum instantaneous forward voltage drop per diode              | V <sub>F</sub> | V    | I <sub>FM</sub> =8.0A                                      | 0.55 | 0.60 | 0.70 | 0.85  | 0.95  |       |
| Maximum DC reverse current at rated DC blocking voltage per diode | I <sub>R</sub> | mA   | Ta=25°C                                                    | 0.2  |      |      | 0.1   |       |       |
|                                                                   |                |      | Ta=100°C                                                   | 20   |      |      | 5.0   |       |       |
| Typical junction capacitance                                      | C <sub>j</sub> | pF   | Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C. | 450  |      | 350  | 270   | 180   |       |

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

| PARAMETER          |                              | SYMBOL          | UNIT | SS82              | SS84 | SS86 | SS810 | SS815 | SS820 |
|--------------------|------------------------------|-----------------|------|-------------------|------|------|-------|-------|-------|
| Thermal Resistance | Between junction and ambient | $R_{\theta JA}$ | °C/W | 45 <sup>(1)</sup> |      |      |       |       |       |
|                    | Between junction and lead    | $R_{\theta JL}$ |      | 12 <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 16 mm) copper pad areas

## Typical Characteristics

FIG.1: Io-TL Curve

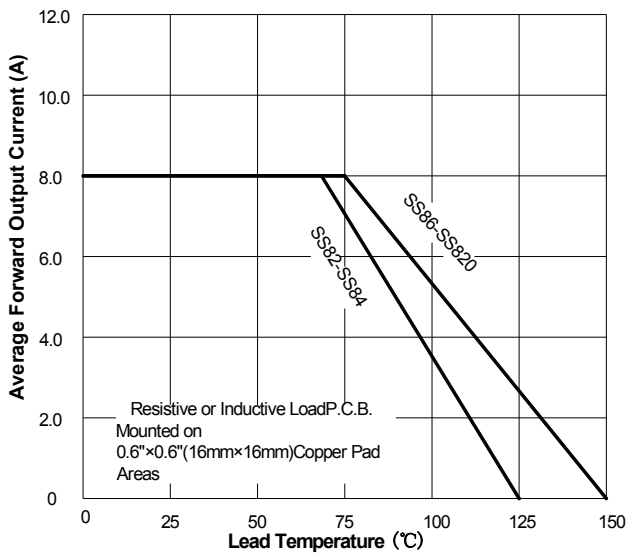


FIG.2: Forward Surge Current Capability

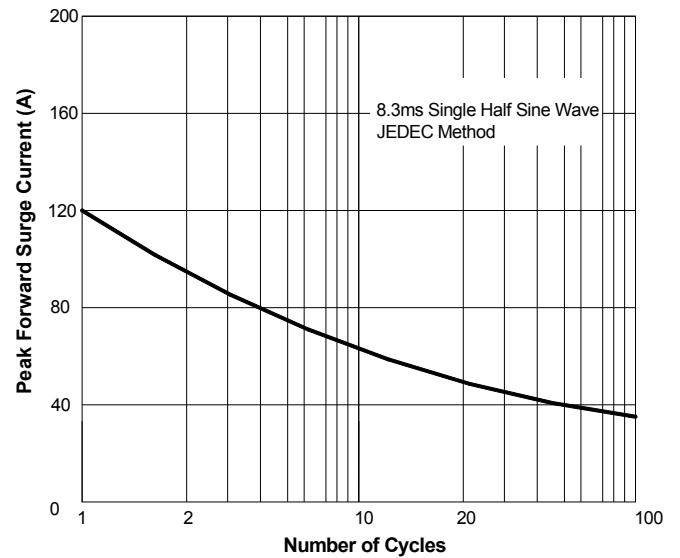


FIG.3: Forward Voltage

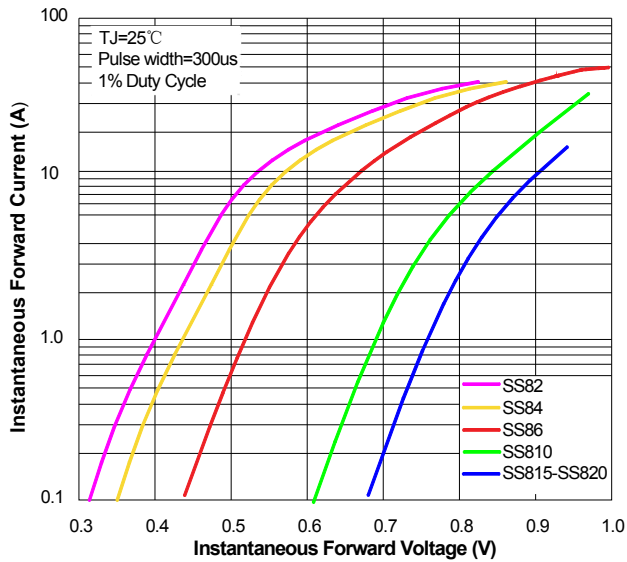


FIG.4: Typical Reverse Characteristics

