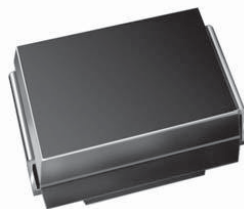


## Surface Mount Fast Switching Rectifier


**DO-214AA (SMB)**

### FEATURES

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- Fast switching for high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### TYPICAL APPLICATIONS

For use in fast switching rectification of power supply, inverters, converters, and freewheeling diodes for consumer, automotive, and telecommunication.

### MECHANICAL DATA

**Case:** DO-214AA (SMB)

Molding compound meets UL 94 V-0 flammability rating

Base P/N-E3 - RoHS-compliant, commercial grade

Base P/NHE3 - RoHS-compliant, AEC-Q101 qualified

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

**Polarity:** Color band denotes cathode end

### PRIMARY CHARACTERISTICS

|                    |                        |
|--------------------|------------------------|
| $I_{F(AV)}$        | 1.5 A                  |
| $V_{RRM}$          | 50 V to 800 V          |
| $I_{FSM}$          | 50 A                   |
| $t_{rr}$           | 150 ns, 250 ns, 500 ns |
| $V_F$              | 1.3 V                  |
| $T_J \text{ max.}$ | 150 °C                 |

### MAXIMUM RATINGS ( $T_A = 25\text{ °C}$ unless otherwise noted)

| PARAMETER                                                                          | SYMBOL         | RS2A          | RS2B | RS2D | RS2G | RS2J | RS2K | UNIT |
|------------------------------------------------------------------------------------|----------------|---------------|------|------|------|------|------|------|
| Device marking code                                                                |                | RA            | RB   | RD   | RG   | RJ   | RK   |      |
| Maximum repetitive peak reverse voltage                                            | $V_{RRM}$      | 50            | 100  | 200  | 400  | 600  | 800  | V    |
| Maximum RMS voltage                                                                | $V_{RMS}$      | 35            | 70   | 140  | 280  | 420  | 500  | V    |
| Maximum DC blocking voltage                                                        | $V_{DC}$       | 50            | 100  | 200  | 400  | 600  | 800  | V    |
| Maximum average forward rectified current at $T_L = 100\text{ °C}$                 | $I_{F(AV)}$    | 1.5           |      |      |      |      |      | A    |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | $I_{FSM}$      | 50            |      |      |      |      |      | A    |
| Operating junction and storage temperature range                                   | $T_J, T_{STG}$ | - 55 to + 150 |      |      |      |      |      | °C   |

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

| PARAMETER                                               | TEST CONDITIONS                                                          |                         | SYMBOL          | RS2A | RS2B | RS2D | RS2G | RS2J | RS2K | UNIT |
|---------------------------------------------------------|--------------------------------------------------------------------------|-------------------------|-----------------|------|------|------|------|------|------|------|
| Maximum instantaneous forward voltage                   | 1.5 A                                                                    |                         | V <sub>F</sub>  | 1.3  |      |      |      |      |      | V    |
| Maximum DC reverse current at rated DC blocking voltage |                                                                          | T <sub>A</sub> = 25 °C  | I <sub>R</sub>  | 5.0  |      |      |      |      |      | μA   |
|                                                         |                                                                          | T <sub>A</sub> = 125 °C |                 | 200  |      |      |      |      |      |      |
| Maximum reverse recovery time                           | I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A |                         | t <sub>rr</sub> | 150  |      |      |      | 250  | 500  | ns   |
| Typical junction capacitance                            | 4.0 V, 1 MHz                                                             |                         | C <sub>J</sub>  | 20   |      |      |      | 17   |      | pF   |

**THERMAL CHARACTERISTICS** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

| PARAMETER                  | SYMBOL                | RS2A | RS2B | RS2D | RS2G | RS2J | RS2K | UNIT |
|----------------------------|-----------------------|------|------|------|------|------|------|------|
| Typical thermal resistance | $R_{\theta JA}^{(1)}$ | 55   |      |      |      |      |      | °C/W |
|                            | $R_{\theta JL}^{(1)}$ | 18   |      |      |      |      |      |      |

**Note**

(1) Thermal resistance from junction to ambient and from junction to lead mounted on PCB with 0.27" x 0.27" (7.0 mm x 7.0 mm) copper pad

**ORDERING INFORMATION** (Example)

| PREFERRED P/N              | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE                      |
|----------------------------|-----------------|------------------------|---------------|------------------------------------|
| RS2J-E3/52T                | 0.096           | 52T                    | 750           | 7" diameter plastic tape and reel  |
| RS2J-E3/5BT                | 0.096           | 5BT                    | 3200          | 13" diameter plastic tape and reel |
| RS2JHE3/52T <sup>(1)</sup> | 0.096           | 52T                    | 750           | 7" diameter plastic tape and reel  |
| RS2JHE3/5BT <sup>(1)</sup> | 0.096           | 5BT                    | 3200          | 13" diameter plastic tape and reel |

**Note**

(1) AEC-Q101 qualified

**RATINGS AND CHARACTERISTICS CURVES**

( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

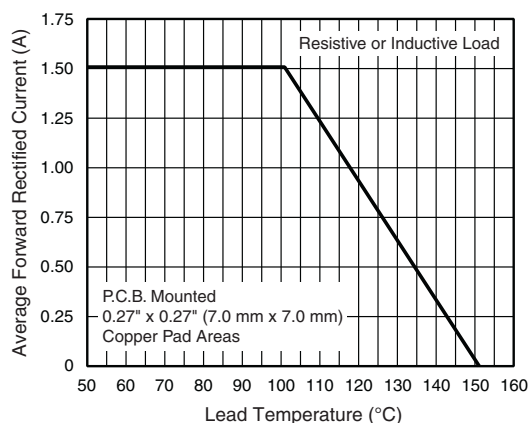


Fig. 1 - Forward Current Derating Curve

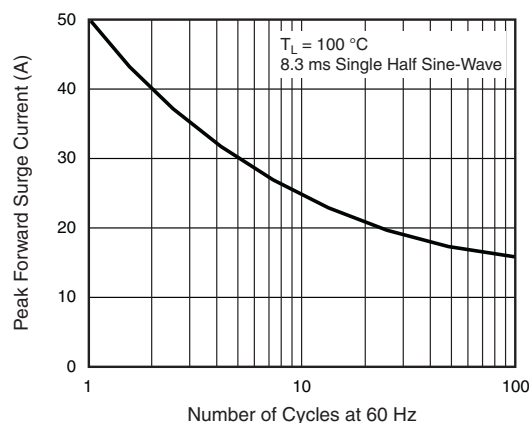


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

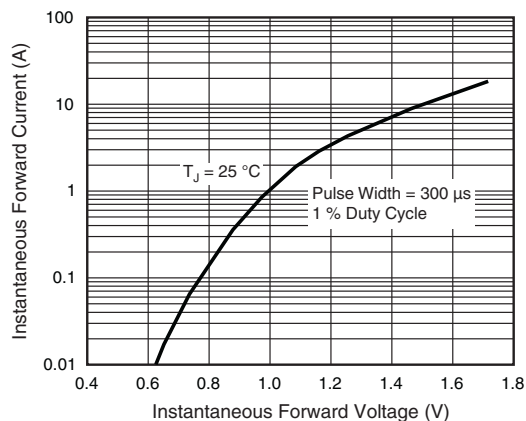


Fig. 3 - Typical Instantaneous Forward Characteristics

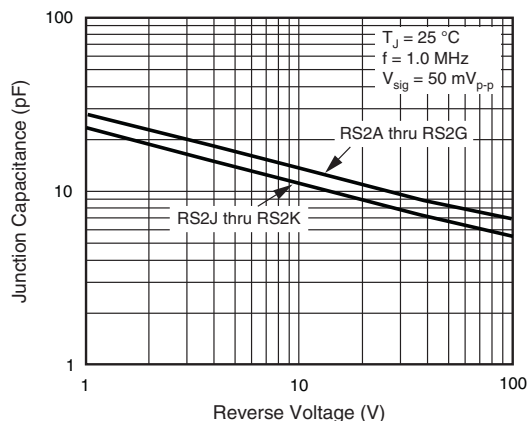


Fig. 5 - Typical Junction Capacitance

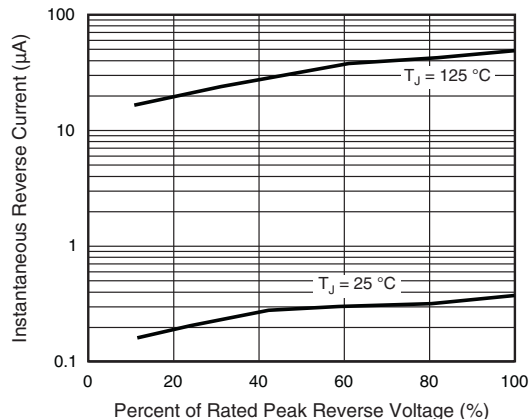
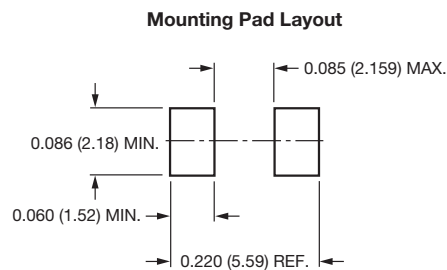
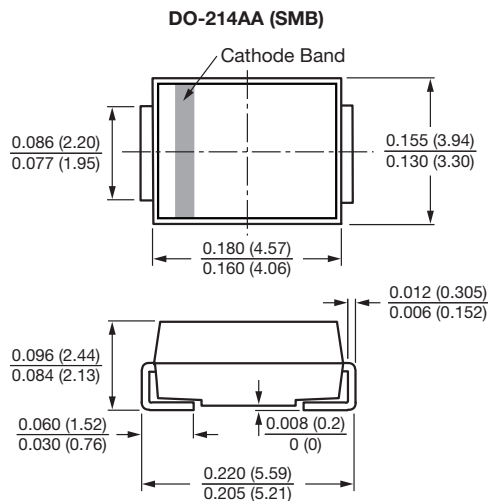


Fig. 4 - Typical Reverse Characteristics

### PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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Электрон  
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