



**FEATURES**

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- Very low forward voltage drop
- High surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

**MECHANICAL DATA**

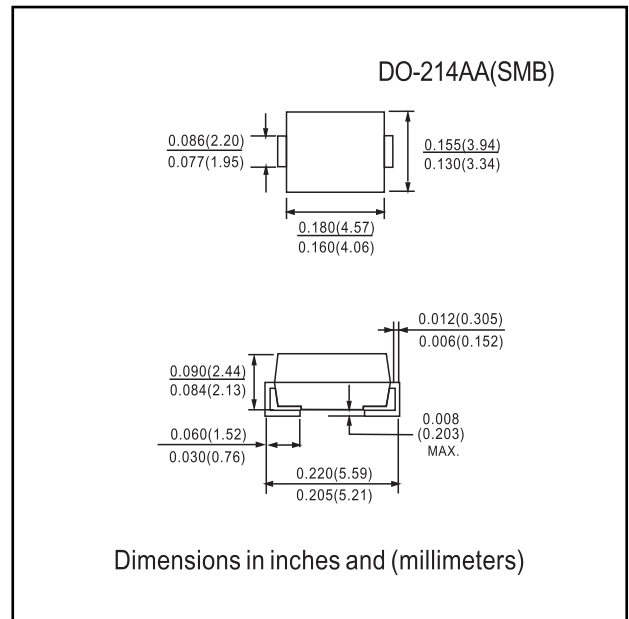
**Case:** DO-214AA (SMB)

Epoxy meets UL 94V-0 flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test, HE3 suffix for high reliability grade (AEC Q101 qualified), meets JESD 201 class 2 whisker test

**Polarity:** Color band denotes the cathode end



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

| <b>MAXIMUM RATINGS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)  |             |               |       |                  |
|--|-------------|---------------|-------|------------------|
| PARAMETER  | SYMBOL      | SSB43L        | SSB44 | UNIT             |
| Device marking code  |             | 43L           | S44   |                  |
| Maximum repetitive peak reverse voltage  | $V_{RRM}$   | 30            | 40    | V                |
| Maximum RMS voltage  | $V_{RMS}$   | 21            | 28    | V                |
| Maximum DC blocking voltage  | $V_{DC}$    | 30            | 40    | V                |
| Max. average forward rectified current at $T_L$ (Fig. 1)                           | $I_{F(AV)}$ | 4.0           |       | A                |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | $I_{FSM}$   | 100           |       | A                |
| Voltage rate of change (rated $V_R$ )  | dV/dt       | 10 000        |       | V/ $\mu$ s       |
| Operating junction temperature range   | $T_J$       | - 65 to + 150 |       | $^\circ\text{C}$ |
| Storage temperature range  | $T_{STG}$   | - 65 to + 150 |       | C                |

| <b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) |                 |   |        |              |              |              |              |      |
|--|-----------------|---|--------|--------------|--------------|--------------|--------------|------|
| PARAMETER  | TEST CONDITIONS |   | SYMBOL | SSB43L       |              | SSB44        |              | UNIT |
|  |                 |   |        | TYP.         | MAX.         | TYP.         | MAX.         |      |
| Maximum instantaneous forward voltage <sup>(1)</sup>   | 4.0 A           | $T_J = 25\text{ }^\circ\text{C}$<br>$T_J = 125\text{ }^\circ\text{C}$ | $V_F$  | 0.43<br>0.33 | 0.45<br>0.38 | 0.45<br>0.37 | 0.49<br>0.42 | V    |
| Maximum reverse current at rated $V_R$ <sup>(2)</sup>  |                 | $T_J = 25\text{ }^\circ\text{C}$<br>$T_J = 125\text{ }^\circ\text{C}$ | $I_R$  | -<br>35      | 0.6<br>45    | -<br>25      | 0.4<br>40    | mA   |

| <b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) |                                    |          |       |                    |
|---|------------------------------------|----------|-------|--------------------|
| PARAMETER   | SYMBOL                             | SSB43L   | SSB44 | UNIT               |
| Typical thermal resistance <sup>(1)</sup>   | $R_{\theta JA}$<br>$R_{\theta JL}$ | 70<br>23 |       | $^\circ\text{C/W}$ |

**Notes:**  
 (1) Pulse test: 300  $\mu$ s pulse width, 1 % duty cycle  
 (2) Pulse test: Pulse width  $\leq$  40 ms

**RATINGS AND CHARACTERISTIC CURVES      SSB43L    and    SSB44**

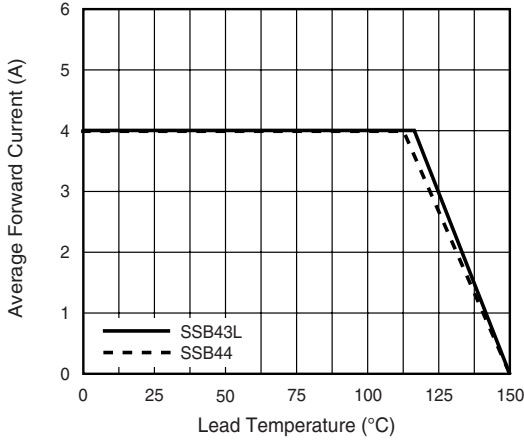


Figure 1. Forward Current Derating Curve

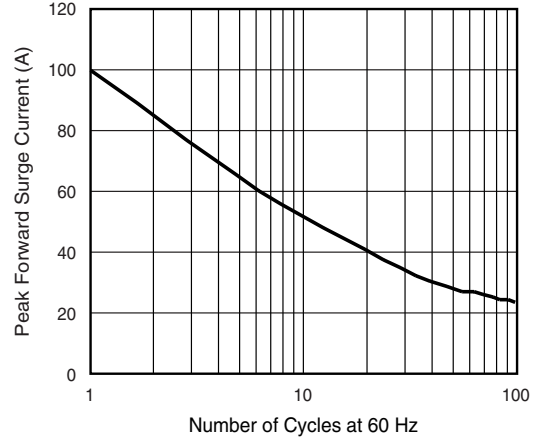


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

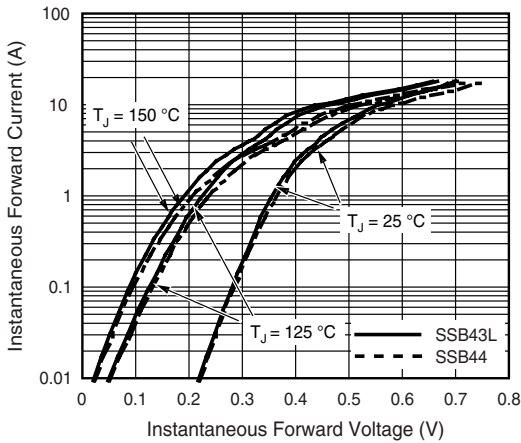


Figure 3. Typical Instantaneous Forward Characteristics

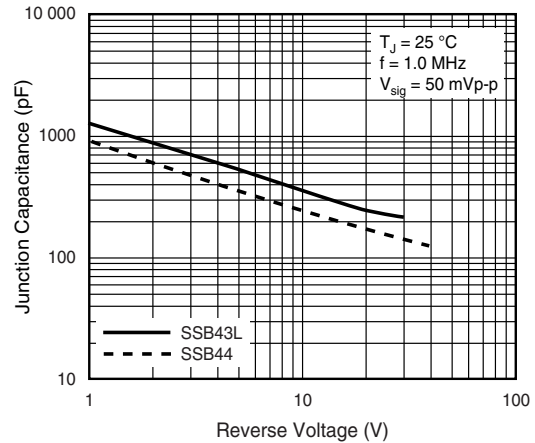


Figure 5. Typical Junction Capacitance

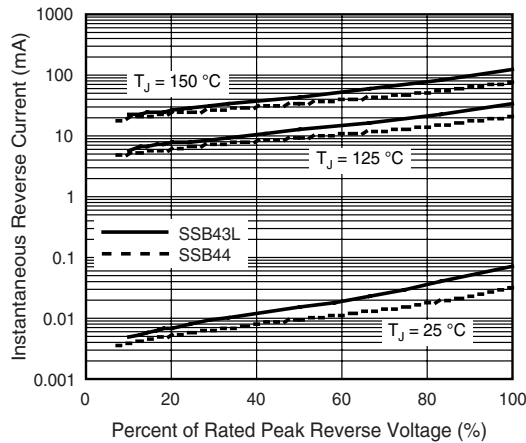


Figure 4. Typical Reverse Characteristics