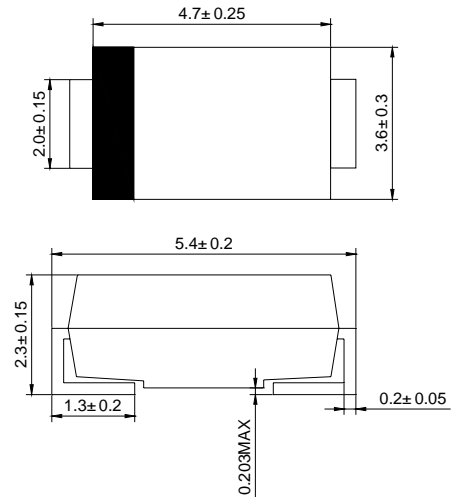




### Features

- Plastic package has Underwriters Laborator Flammability Classification 94V-0
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Metal silicon junction, majority carrier conduction
- High surge capability
- High current capability, low forward voltage drop
- Low power loss, high efficiency
- For use in low voltage high frequency inverters, free wheeling and polarity protection applications
- Guardring for overvoltage protection
- High temperature soldering guaranteed: 250°C/10 seconds at terminals

### SMB



Dimensions in millimeters

### Mechanical Data

- Case: JEDEC SMB, molded plastic over passivated chip
- Polarity: Color band denotes cathode end
- Weight: 0.093 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

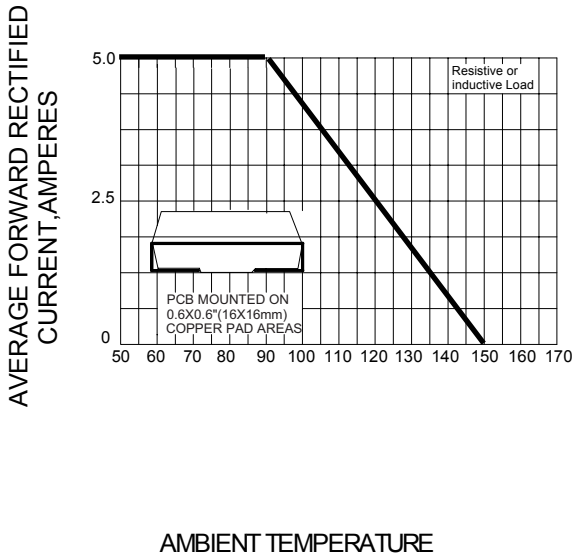
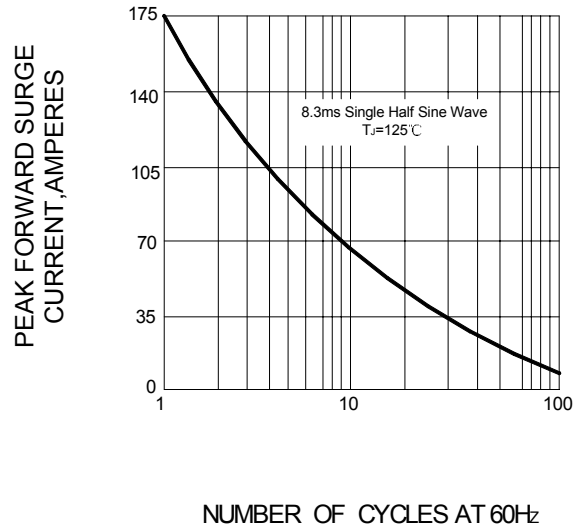
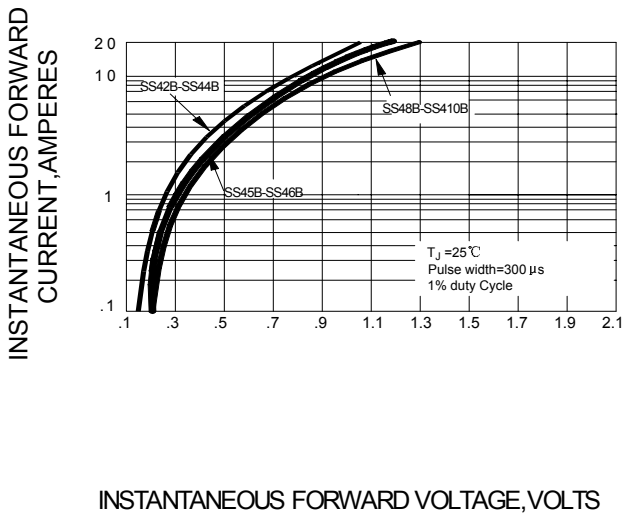
Ratings at 25°C ambient temperature unless otherwise specified

|  |            | SS42B        | SS43B | SS44B | SS45B | SS46B | SS48B | SS49B | SS410B | UNITS |
|--|------------|--------------|-------|-------|-------|-------|-------|-------|--------|-------|
| Maximum recurrent peak reverse voltage   | $V_{RRM}$  | 20           | 30    | 40    | 50    | 60    | 80    | 90    | 100    | V     |
| Maximum RMS voltage  | $V_{RWS}$  | 14           | 21    | 28    | 35    | 42    | 56    | 63    | 70     | V     |
| Maximum DC blocking voltage  | $V_{DC}$   | 20           | 30    | 40    | 50    | 60    | 80    | 90    | 100    | V     |
| Maximum average forward rectified current at $T_L$ (SEE FIG. 1) (NOTE 2)   | $I_{(AV)}$ | 4.0          |       |       |       |       |       |       |        | A     |
| Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load (JEDEC Method)                       | $I_{FSM}$  | 100          |       |       |       |       |       |       |        | A     |
| Maximum instantaneous forward voltage at 5.0A (NOTE 1)   | $V_F$      | 0.50         |       | 0.75  |       | 0.85  |       |       |        | V     |
| Maximum DC reverse current @ $T_A=25^\circ\text{C}$<br>at rated DC blocking voltage (NOTE 1) @ $T_A=100^\circ\text{C}$ | $I_R$      | 0.5          |       |       |       | 10    |       |       |        | mA    |
| Typical thermal resistance (NOTE 2)  | $R_{JA}$   | 55           |       |       |       |       |       |       |        | °C/W  |
|  | $R_{JL}$   | 17           |       |       |       |       |       |       |        |       |
| Operating junction temperature range   | $T_J$      | -55 --- +150 |       |       |       |       |       |       |        | °C    |
| Storage temperature range  | $T_{STG}$  | -55 --- +150 |       |       |       |       |       |       |        | °C    |

NOTE: 1. Pulse test: 300 μs pulse width, 1% duty cycle

2. P.C.B. mounted with 0.55"X0.55" (14.0X14.0mm<sup>2</sup>) copper pad areas

## Ratings AND Characteristic Curves

**FIG.1 – FORWARD DERATING CURVE**

**FIG.2– PEAK FORWARD SURGE CURRENT**

**FIG.3 – TYPICAL FORWARD CHARACTERISTICS**

**FIG.4 – TYPICAL REVERSE CHARACTERISTICS**
