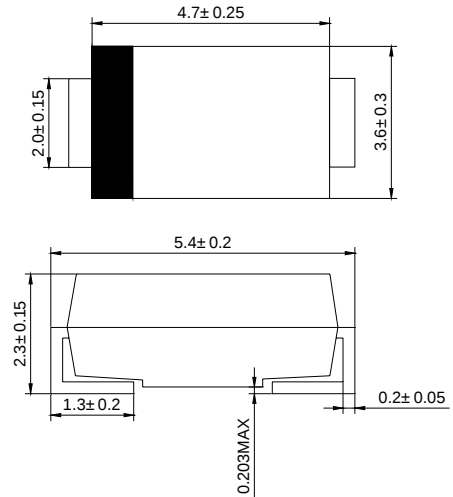




#### SMB

## Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Metal silicon junction, majority carrier conduction
- High surge capability
- 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



## Mechanical Data

- Case: JEDEC SMB, molded plastic over passivated chip
- Polarity: Color band denotes cathode end
- Weight: 0.003 ounces, 0.093 gram

Dimensions in millimeters

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

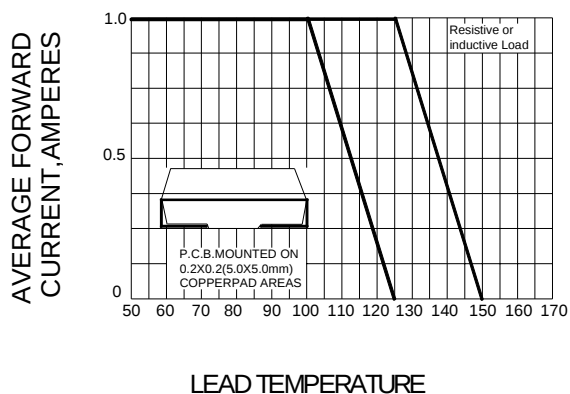
|                                                                                                  |                   | B120B         | B130B | B140B | B150B | B160B | UNITS |
|--------------------------------------------------------------------------------------------------|-------------------|---------------|-------|-------|-------|-------|-------|
| Maximum recurrent peak reverse voltage                                                           | V <sub>RRM</sub>  | 20            | 30    | 40    | 50    | 60    | V     |
| Maximum RMS voltage                                                                              | V <sub>RWS</sub>  | 14            | 21    | 28    | 35    | 42    | V     |
| Maximum DC blocking voltage                                                                      | V <sub>DC</sub>   | 20            | 30    | 40    | 50    | 60    | V     |
| Maximum average forw ord rectified current at T <sub>L</sub> (SEE FIG.1)                         | I <sub>(AV)</sub> | 1.0           |       |       |       |       | A     |
| Peak forw ard surge current 8.3ms single half-sine-wave superimposed on rated load(JEDEC Method) | I <sub>FSM</sub>  | 30.0          |       |       |       |       | A     |
| Maximum instantaneous forw ard voltage at 1.0A(NOTE.1)                                           | V <sub>F</sub>    | 0.5           |       |       | 0.7   |       | V     |
| Maximum DC reverse current (NOTE.1)<br>@T <sub>A</sub> =25°C                                     | I <sub>R</sub>    | 0.5           |       |       |       |       | mA    |
| at rated DC blockjng voltage @T <sub>A</sub> =100°C                                              |                   | 10.0          |       |       |       |       |       |
| Typical thermal resitance (NOTE. 2)                                                              | R <sub>θJA</sub>  | 88.0          |       |       |       |       | °C/W  |
|                                                                                                  | R <sub>θJL</sub>  | 20.0          |       |       |       |       |       |
| Storage temperature range Operating junction and storage temperature range                       | T <sub>j</sub>    | - 55 --- +125 |       |       |       |       | °C    |
| Storage temperature range                                                                        | T <sub>STG</sub>  | - 55 --- +150 |       |       |       |       | °C    |

NOTE: 1. Pulse test: 300  $\mu\text{s}$  pulse width, 1% duty cycle

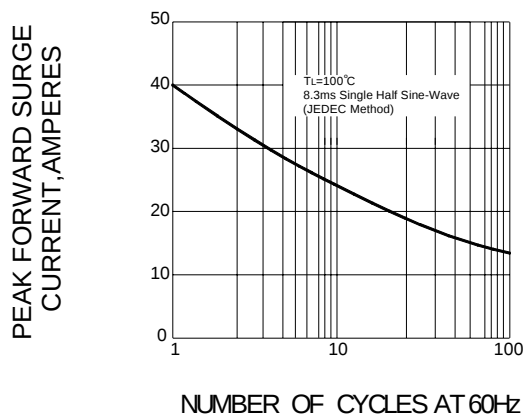
2. P.C.B. mounted with 0.2"X0.2" (5.0X5.0mm<sup>2</sup>) copper pad areas

## Ratings AND Characteristic Curves

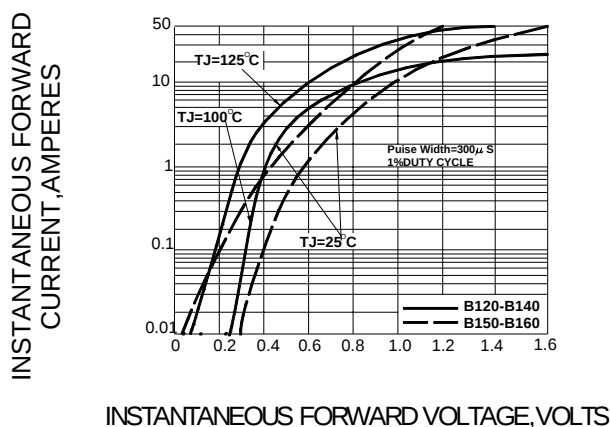
**FIG.1 – FORWARD DERATING CURVE**



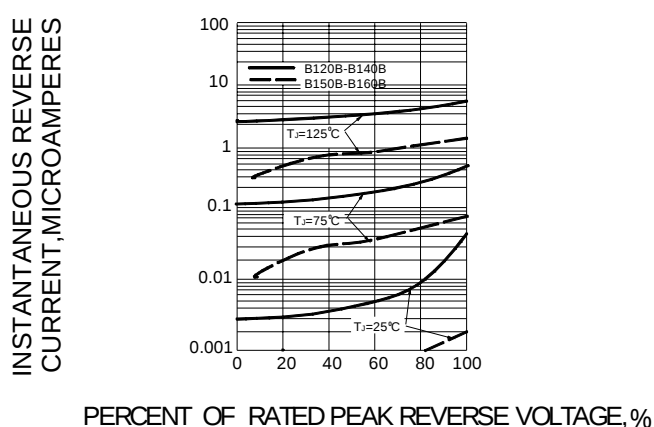
**FIG.2– PEAK FORWARD SURGE CURRENT**



**FIG.3 – TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 – TYPICAL REVERSE CHARACTERISTICS**



**FIG.5–TYPICAL JUNCTION CAPACITANCE**

