

# SB32      THRU      SB3A0

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIERS

### 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
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
- Guard ring for overvoltage protection
- High temperature soldering guaranteed:  
250°C /10 seconds at terminals

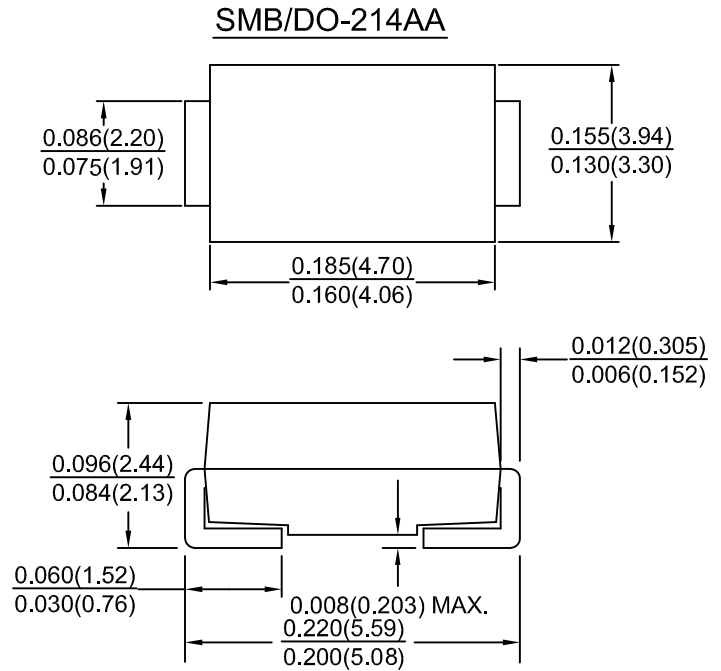
### MECHANICAL DATA

Case : JEDEC DO-214AA molded plastic body

Terminals : Solder plated, solderable per MIL-STD-750  
Method 2026

Polarity : Color band on body denotes cathode end

Weight : 0.093 grams, 0.003 ounce



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temp. unless otherwise specified.

Single phase, half sine wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20 %.

| Characteristic                                                                                  | Symbol           | SB<br>32     | SB<br>33 | SB<br>34 | SB<br>35 | SB<br>36 | SB<br>38 | SB<br>39 | SB<br>3A0 | Units |
|-------------------------------------------------------------------------------------------------|------------------|--------------|----------|----------|----------|----------|----------|----------|-----------|-------|
|                                                                                                 | Marking          | S32          | S33      | S34      | S35      | S36      | S38      | S39      | S3A0      |       |
| Maximum recurrent peak reverse voltage                                                          | VRRM             | 20           | 30       | 40       | 50       | 60       | 80       | 90       | 100       | Volts |
| Maximum RMS voltage                                                                             | VRMS             | 14           | 21       | 28       | 35       | 42       | 56       | 64       | 70        | Volts |
| Maximum DC blocking voltage                                                                     | VDC              | 20           | 30       | 40       | 50       | 60       | 80       | 90       | 100       | Volts |
| Maximum average forward rectified current at TL(SEE FIG.1)                                      | IAV              | 3.0          |          |          |          |          |          |          |           | Amps  |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load(JEDEC Method) | IFSM             | 90.0         |          |          |          |          |          |          |           | Amps  |
| Maximum instantaneous forward voltage drop at 3.0 A (NOTE 1)                                    | VF               | 0.5          | 0.55     |          | 0.70     |          | 0.85     |          | Volts     |       |
| Maximum instantaneous reverse current at rated DC blocking voltage (NOTE 1)                     | IR               | 0.5<br>20.0  |          |          |          |          |          |          |           | mA    |
| Maximum thermal resistance (NOTE 2)                                                             | Rth-JA<br>Rth-JL | 75.0<br>17.0 |          |          |          |          |          |          |           | °C/W  |
| Operating junction temperature range                                                            | TJ               | -65 to +150  |          |          |          |          |          |          |           | °C    |
| Storage temperature range                                                                       | Tstg             | -65 to +150  |          |          |          |          |          |          |           | °C    |

#### NOTES:

(1) Pulse test: 300 μs pulse width, 1% duty cycle

(2) P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas

FIG.1 - FORWARD CURRENT DERATING CURVE

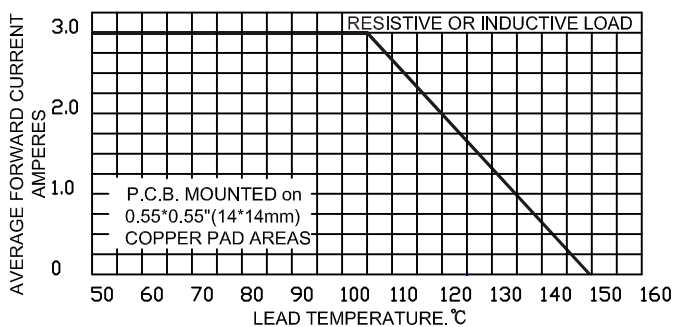


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

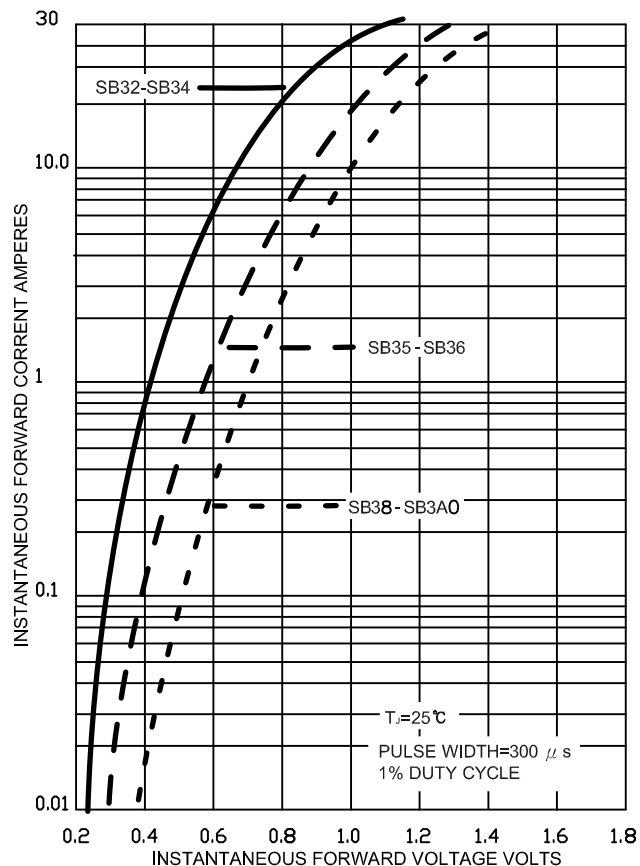


FIG.4-TYPICAL REVERSE CHARACTERISTICS

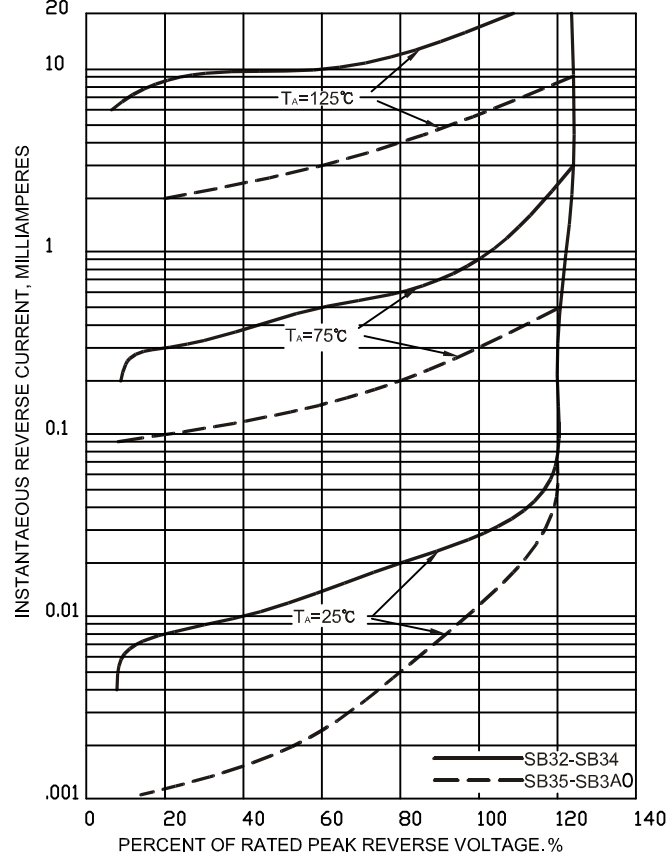


FIG.5-TYPICAL JUNCTION CAPACITANCE

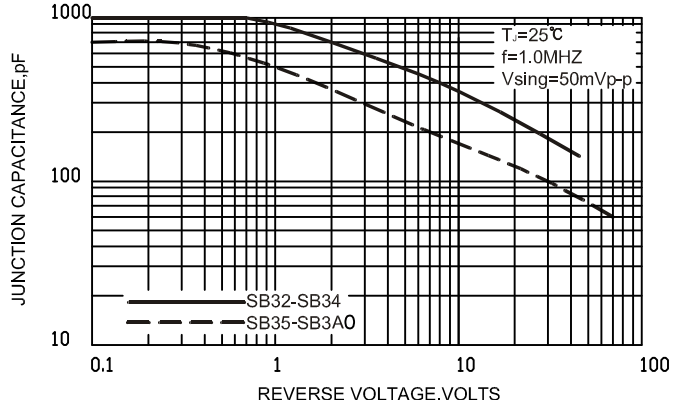


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

