

**VOLTAGE RANGE: 50 - 1000V**

**CURRENT: 3.0 A**

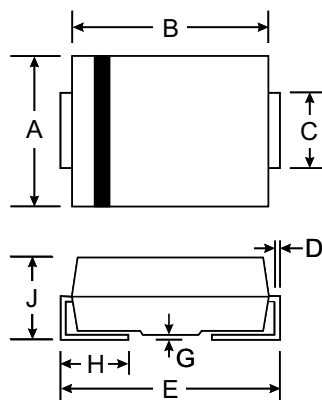


### Features

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Forward Voltage Drop, High Efficiency
- Low Power Loss
- Ultra-Fast Recovery Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O

### Mechanical Data

- Case: SMB/DO-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.093 grams (approx.)



| SMB(DO-214AA)        |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 3.30 | 3.94 |
| B                    | 4.06 | 4.70 |
| C                    | 1.91 | 2.21 |
| D                    | 0.15 | 0.31 |
| E                    | 5.00 | 5.59 |
| G                    | 0.10 | 0.20 |
| H                    | 0.76 | 1.52 |
| J                    | 2.00 | 2.62 |
| All Dimensions in mm |      |      |

### Maximum Ratings and Electrical Characteristics T<sub>A</sub> = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

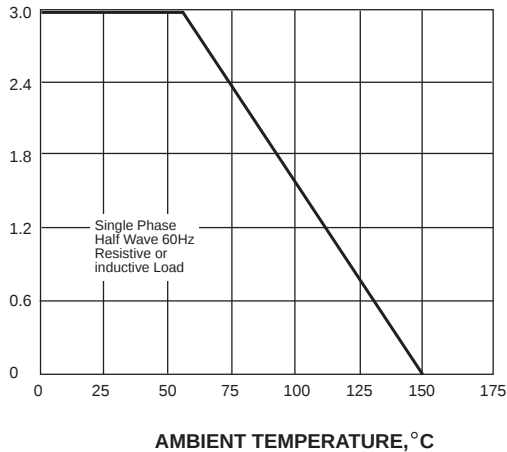
| Characteristic                                                                                              | Symbol                            | US3AB        | US3BB | US3DB | US3GB | US3JB | US3KB | US3MB | Unit |
|-------------------------------------------------------------------------------------------------------------|-----------------------------------|--------------|-------|-------|-------|-------|-------|-------|------|
| Maximum repetitive peak reverse voltage                                                                     | V <sub>RRM</sub>                  | 50           | 100   | 200   | 400   | 600   | 800   | 1000  | V    |
| Maximum RMS voltage                                                                                         | V <sub>RMS</sub>                  | 35           | 70    | 140   | 280   | 420   | 560   | 700   | V    |
| Maximum DC blocking voltage                                                                                 | V <sub>DC</sub>                   | 50           | 100   | 200   | 400   | 600   | 800   | 1000  | V    |
| Maximum average forward rectified current<br>0.375"(9.5mm) lead length at T <sub>A</sub> =55°C              | I <sub>(AV)</sub>                 | 3.0          |       |       |       |       |       |       | A    |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on<br>rated load (JEDEC Method)      | I <sub>FSM</sub>                  | 100.0        |       |       |       |       |       |       | A    |
| Maximum instantaneous forward voltage at 3.0A                                                               | V <sub>F</sub>                    | 1.0          |       |       | 1.30  | 1.70  |       |       | V    |
| Maximum DC reverse current    T <sub>A</sub> =25°C<br>at rated DC blocking voltage    T <sub>A</sub> =100°C | I <sub>R</sub>                    | 5.0<br>250.0 |       |       |       |       |       |       | μA   |
| Maximum reverse recovery time    (NOTE 1)                                                                   | t <sub>rr</sub>                   | 50           |       |       |       | 75    |       |       | ns   |
| Typical junction capacitance (NOTE 2)                                                                       | C <sub>J</sub>                    | 75           |       |       |       |       |       |       | pF   |
| Typical thermal resistance                                                                                  | R <sub>θJL</sub>                  | 15.0         |       |       |       |       |       |       | °C/W |
| Operating junction and storage temperature range                                                            | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150  |       |       |       |       |       |       | °C   |

**Note:** 1. Reverse recovery condition I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>rr</sub>=0.25A  
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

## RATINGS AND CHARACTERISTIC CURVES US3AB THRU US3MB

AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT,  
AMPERES

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

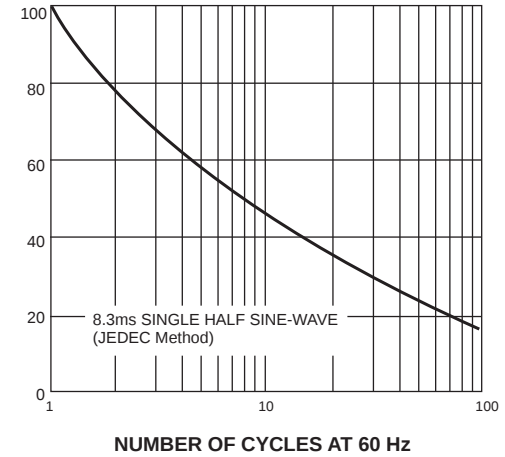
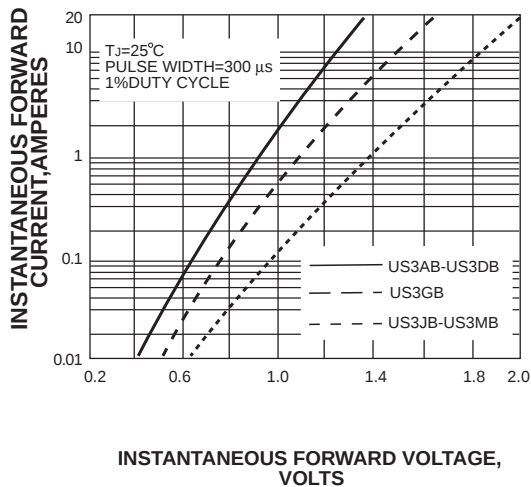


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT,  
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

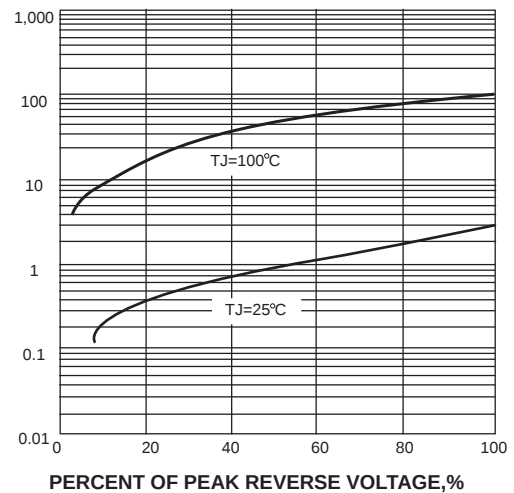
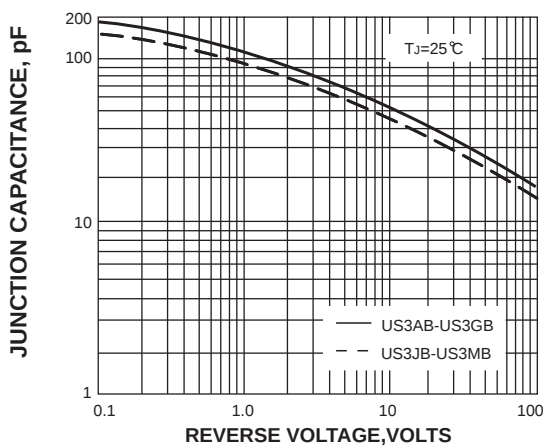


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
 $^\circ\text{C}/\text{W}$

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

