

## Surface Mount Super Fast Rectifiers

### Features:

- \* High current capability
- \* High surge current capability
- \* Low reverse current
- \* Component in accordance to RoHS 2002/95/EC

### Mechanical Data

- \* Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- \* Terminals: Lead Free Plating (Tin Finish). Solderable per MIL-STD-202, Method 208
- \* Polarity: Cathode Band
- \* Weight: 0.095 grams (approximate)

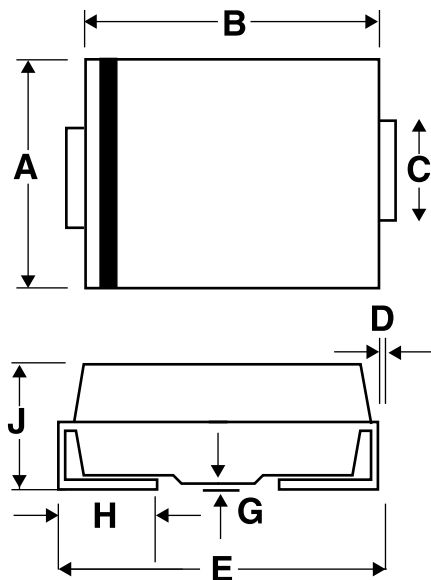
**REVERSE VOLTAGE**  
**50 TO 600 VOLTS**  
**FORWARD CURRENT**  
**3.0 AMPERE**



**SMB(DO-214AA)**

### SMB Outline Dimensions

Unit:mm



| SMB      |      |      |
|----------|------|------|
| Dim      | Min  | Max  |
| <b>A</b> | 3.30 | 3.94 |
| <b>B</b> | 4.06 | 4.80 |
| <b>C</b> | 1.96 | 2.21 |
| <b>D</b> | 0.15 | 0.31 |
| <b>E</b> | 5.00 | 5.59 |
| <b>G</b> | 0.10 | 0.20 |
| <b>H</b> | 0.76 | 1.52 |
| <b>J</b> | 2.00 | 2.62 |

## Maximum Ratings and Electrical Characteristics

(TA=25°C unless otherwise noted)

| Characteristics                                                                           | Symbol           | ES3AB      | ES3BB | ES3CB | ES3DB | ES3FB | ES3GB | ES3JB | Unit           |
|-------------------------------------------------------------------------------------------|------------------|------------|-------|-------|-------|-------|-------|-------|----------------|
| Maximum Recurrent Peak Reverse Voltage                                                    | VRRM             | 50         | 100   | 150   | 200   | 300   | 400   | 600   | V              |
| Maximum RMS Voltage                                                                       | VRMS             | 35         | 70    | 105   | 140   | 210   | 280   | 420   | V              |
| Maximum DC Blocking Voltage                                                               | VDC              | 50         | 100   | 150   | 200   | 300   | 400   | 600   | V              |
| Maximum Average Forward Rectified Current                                                 | IF(AV)           | 3.0        |       |       |       |       |       |       | A              |
| Peak Forward Surge Current,<br>8.3 ms Single Half Sine-Wave<br>Superimposed on Rated Load | IFSM             | 80.0       |       |       |       |       |       |       | A              |
| Maximum Instantaneous IF = 3.0A @ 25°C                                                    | VF               | 0.98       |       |       |       | 1.30  |       | 1.75  | V              |
| Maximum DC Reverse Current @TA=25°C<br>At Rated DC Blocking Voltage @TA=100°C             | IR               | 5<br>100   |       |       |       |       |       |       | uA             |
| Maximum Reverse Recovery Time(Note1)                                                      | Trr              | 35         |       |       |       |       |       |       | nS             |
| Typical Junction Capacitance (Note 2)                                                     | C <sub>J</sub>   | 50         |       |       |       | 30    |       |       | P <sub>F</sub> |
| Typical Thermal Resistance                                                                | R <sub>θJC</sub> | 30         |       |       |       |       |       |       | °C/W           |
| Operating Temperature Range                                                               | T <sub>J</sub>   | -55 to+150 |       |       |       |       |       |       | °C             |
| Storage Temperature Range                                                                 | TSTG             | -55 to+150 |       |       |       |       |       |       | °C             |

NOTES:1.Reverse Recovery Test Conditions: IF=0.5A, IR=1.0A, I<sub>RR</sub>=0.25A.

2.Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

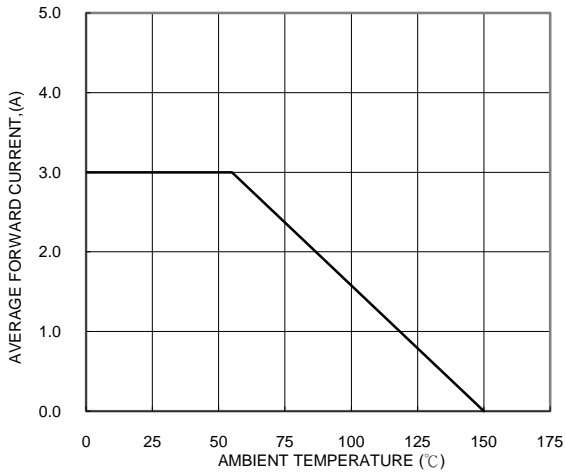


FIG. 1-TYPICAL FORWARD CURRENT DERATING CURVE

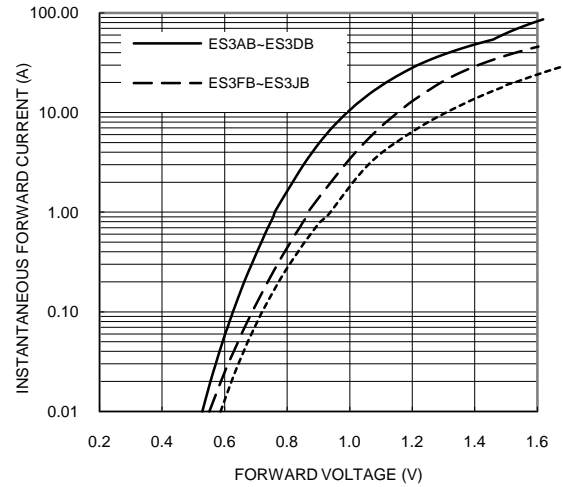


FIG. 2-TYPICAL FORWARD CHARACTERISTICS

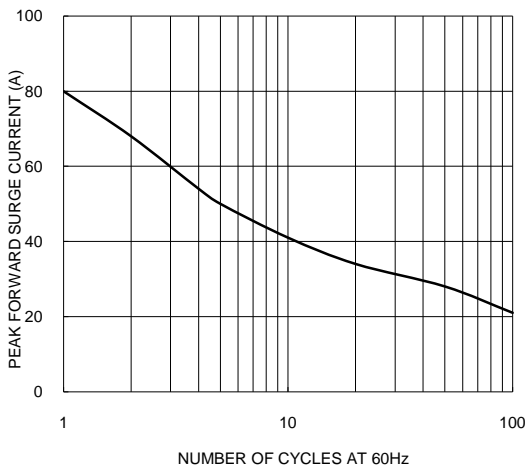


FIG. 3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

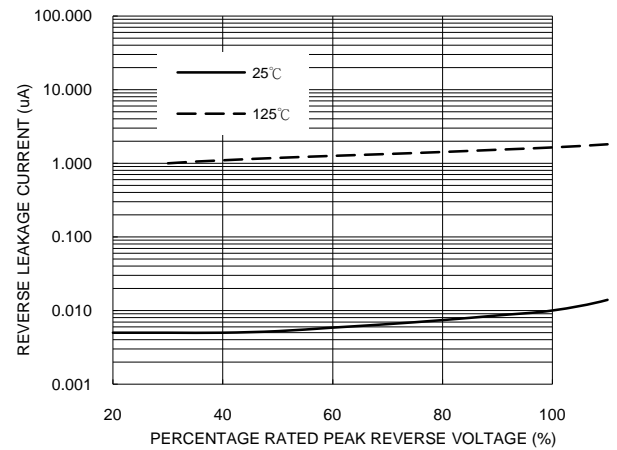


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

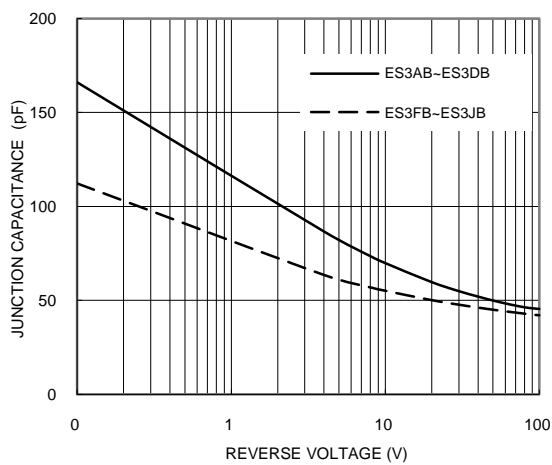


FIG. 5-TYPICAL JUNCTION CAPACITANCE