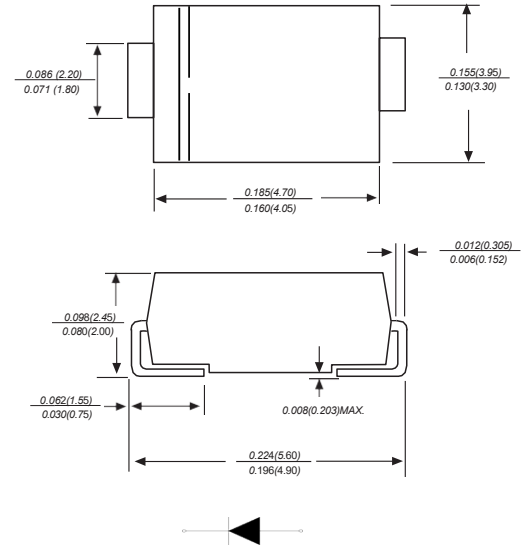


## SURFACE MOUNT SUPER FAST RECOVERY RECTIFIER

### Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Low reverse leakage
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 250°C/10 seconds at terminals
- ◆ Glass passivated chip junction

### DO-214AA/SMB



Dimensions in inches and (millimeters)

### Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

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

| Parameter                                                                                             | SYMBOLS                              | ES3AB       | ES3BB | ES3CB | ES3DB | ES3EB | ES3GB | ES3JB | UNITS |
|-------------------------------------------------------------------------------------------------------|--------------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Marking Code                                                                                          |                                      |             |       |       |       |       |       |       |       |
| Maximum repetitive peak reverse voltage                                                               | V <sub>RRM</sub>                     | 50          | 100   | 150   | 200   | 300   | 400   | 600   | V     |
| Maximum RMS voltage                                                                                   | V <sub>RMS</sub>                     | 35          | 70    | 105   | 140   | 210   | 280   | 420   | V     |
| Maximum DC blocking voltage                                                                           | V <sub>DC</sub>                      | 50          | 100   | 150   | 200   | 300   | 400   | 600   | V     |
| Maximum average forward rectified current at TL=100°C                                                 | I <sub(av)< sub=""></sub(av)<>       | 3.0         |       |       |       |       |       |       | A     |
| Peak forward surge current<br>8.3ms single half sine-wave<br>superimposed onrated load (JEDEC Method) | I <sub>FSM</sub>                     | 90          |       |       |       |       |       |       | A     |
| Maximum instantaneous forward voltage at 3.0A                                                         | V <sub>F</sub>                       | 1           |       |       |       | 1.25  |       | 1.68  | V     |
| Maximum DC reverse current      TA=25°C<br>at rated DCblocking voltage      TA=125°C                  | I <sub>R</sub>                       | 5<br>100    |       |       |       |       |       |       | µA    |
| Maximum reverse recovery time      (NOTE 1)                                                           | t <sub>rr</sub>                      | 35          |       |       |       |       |       |       | ns    |
| Typical junction capacitance (NOTE 2)                                                                 | C <sub>J</sub>                       | 45          |       |       |       |       |       |       | pF    |
| Typical thermal resistance (NOTE 3)                                                                   | R <sub>θJA</sub><br>R <sub>θJC</sub> | 50<br>16    |       |       |       |       |       |       | °C/W  |
| Operating junction and storage temperature range                                                      | T <sub>J</sub> ,T <sub>STG</sub>     | -55 to +150 |       |       |       |       |       |       | °C    |

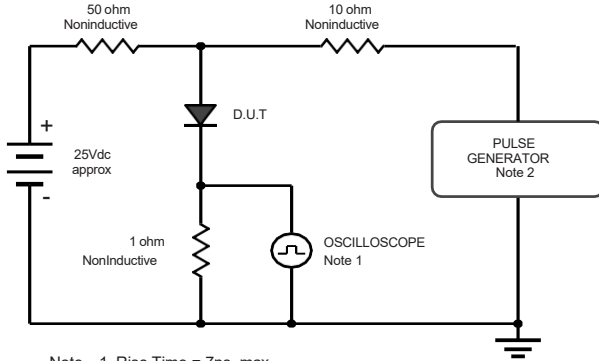
Note: 1. Reverse recovery condition  $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$

2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

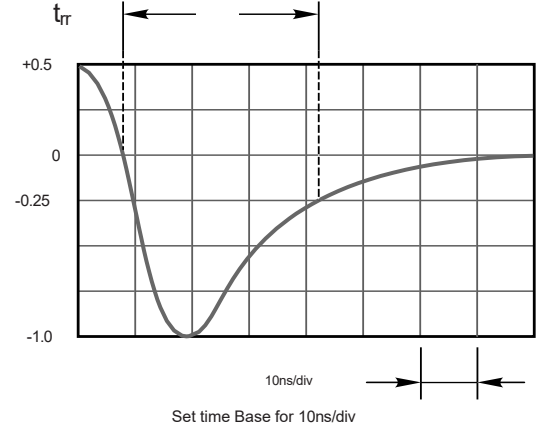
3. P.C.B. mounted with 2.0"x2.0" (5.0x5.0cm) copper pad areas

## Ratings And Characteristic Curves

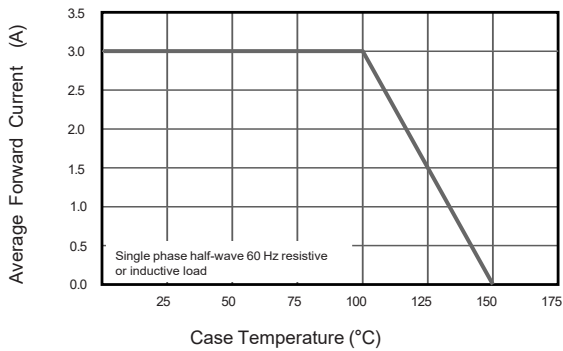
**Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram**



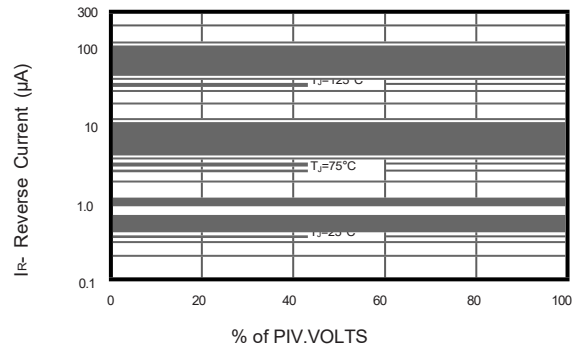
Note: 1. Rise Time = 7ns, max.  
Input Impedance = 1megohm, 22pF.  
2. Rise Time = 10ns, max.  
Source Impedance = 50 ohms.



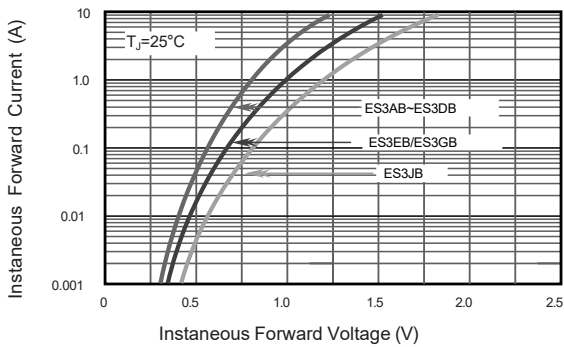
**Fig.2 Maximum Average Forward Current Rating**



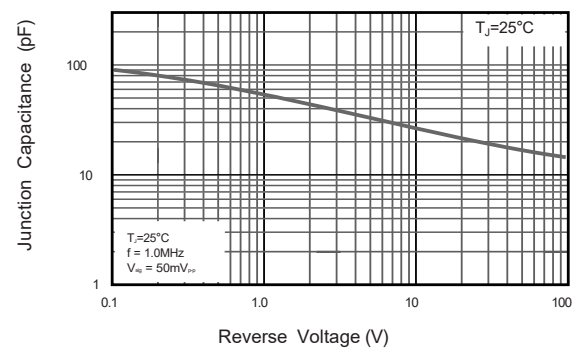
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**



**Fig.5 Typical Junction Capacitance**



**Fig.6 Maximum Non-Repetitive Peak Forward Surge Current**

