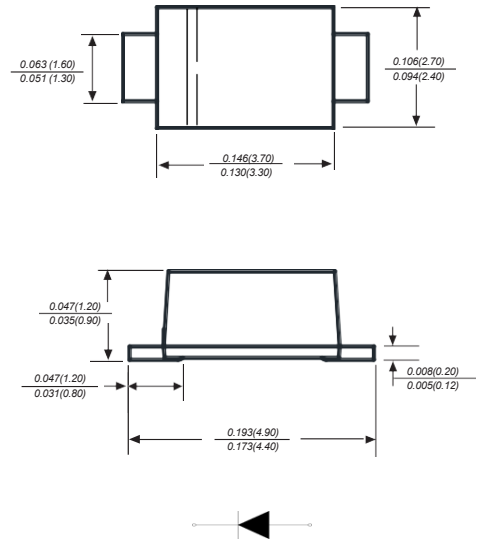


## SURFACE MOUNT SUPER FAST RECOVERY RECTIFIER

### 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: 260°C/10 seconds at terminals
- ◆ Glass passivated chip junction

### SMAF



Dimensions in inches and (millimeters)

### Maximum Ratings And Electrical Characteristics

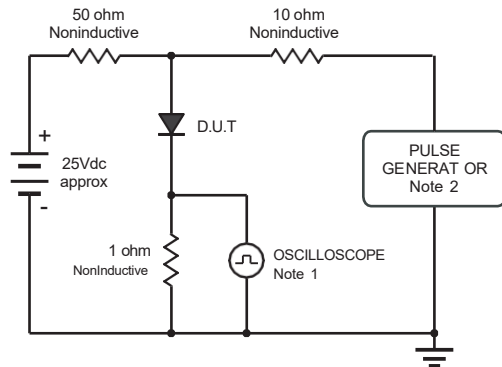
Ratings at 25°C ambient temperature unless otherwise specified.

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

| Parameter                                                                                             | SYMBOLS                          | ES3AF      | ES3BF | ES3CF | ES3DF | ES3EF | ES3GF | ES3JF | 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=55°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>                 | 50         |       |       |       |       |       |       | A     |
| Maximum instantaneous forward voltage at 3.0A                                                         | V <sub>F</sub>                   | 0.95       |       |       |       | 1.25  |       | 1.7   | V     |
| Maximum DC reverse current      TA=25°C<br>at rated DCblocking voltage      TA=125°C                  | I <sub>R</sub>                   | 5.0<br>200 |       |       |       |       |       |       | uA    |
| Maximum reverse recovery time (NOTE 1)                                                                | t <sub>rr</sub>                  | 35         |       |       |       |       |       |       | ns    |
| Typical junction capacitance (NOTE 2)                                                                 | C <sub>J</sub>                   | 60.0       |       |       |       |       |       |       | pF    |
| Typical thermal resistance (NOTE 3)                                                                   | R <sub>θJA</sub>                 | 40.0       |       |       |       |       |       |       | °C/W  |
| Operating junction and storage temperature range                                                      | T <sub>J</sub> ,T <sub>STG</sub> | -50 to+150 |       |       |       |       |       |       | °C    |

**Note:** 1. Reverse recovery condition  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $t_{rr}=0.25\text{A}$   
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 3. P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas

## Ratings And Characteristic Curves



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

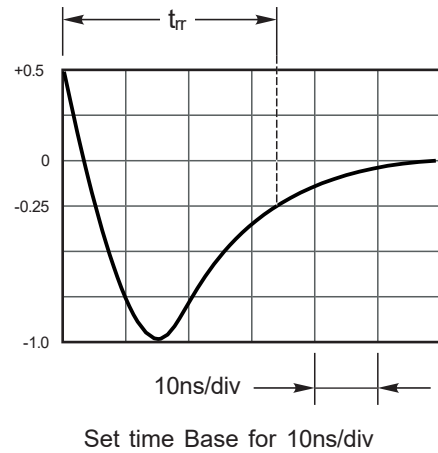


Fig.2 Maximum Average Forward Current Rating

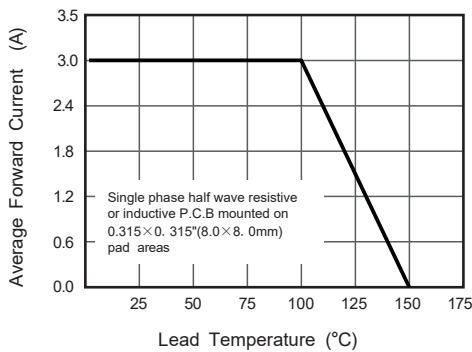


Fig.3 Typical Reverse Characteristics

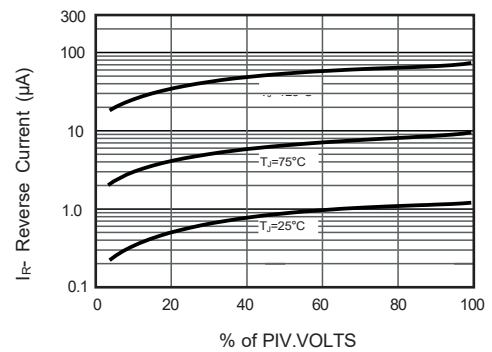


Fig.4 Typical Forward Characteristics

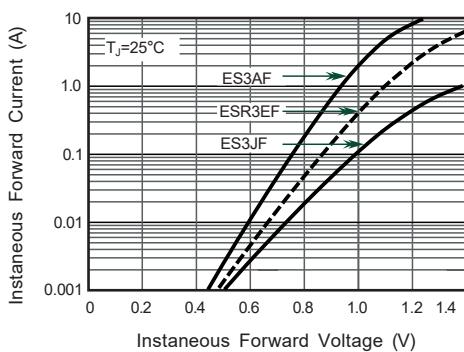
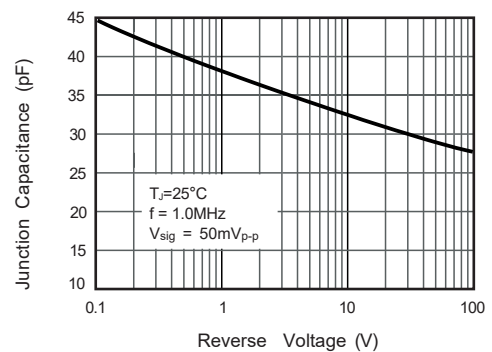


Fig.5 Typical Junction Capacitance



The curve above is for reference only.