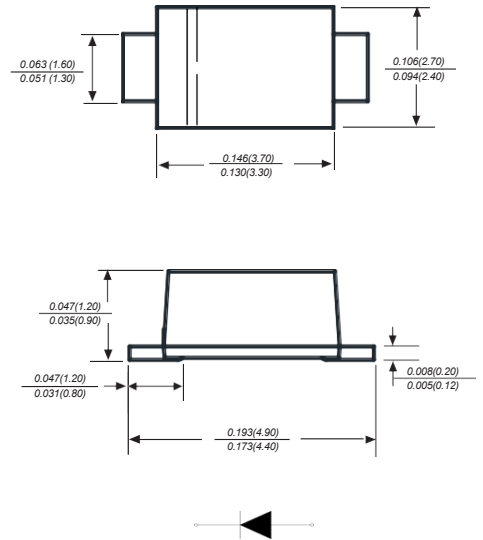


## SURFACE MOUNT SUPER FAST RECOVERY RECTIFIER

### 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

### 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%.

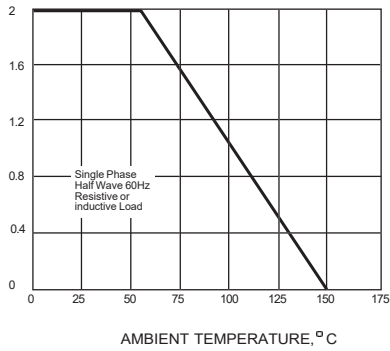
| Parameter                                                                                             | SYMBOLS                          | ES2AF             | ES2BF | ES2CF | ES2DF | ES2EF | ES2GF | ES2JF | UNITS |
|-------------------------------------------------------------------------------------------------------|----------------------------------|-------------------|-------|-------|-------|-------|-------|-------|-------|
| 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)<>   | 2.0               |       |       |       |       |       |       | 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 2.0A                                                         | V <sub>F</sub>                   | 0.95              |       |       |       | 1.25  |       | 1.70  | V     |
| Maximum DC reverse current      TA=25°C                                                               | I <sub>R</sub>                   | 5.0               |       |       |       |       |       |       | uA    |
| at rated DCblocking voltage      TA=125°C                                                             |                                  | 50.0              |       |       |       |       |       |       |       |
| 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)                                                                   | RθJA                             | 40.0              |       |       |       |       |       |       | °C/W  |
| Operating junction and storage temperature range                                                      | T <sub>J</sub> ,T <sub>STG</sub> | - 5 0 t o + 1 5 0 |       |       |       |       |       |       | °C    |

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

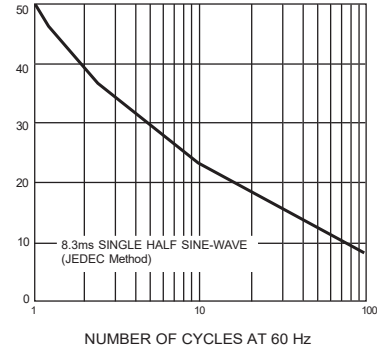
AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



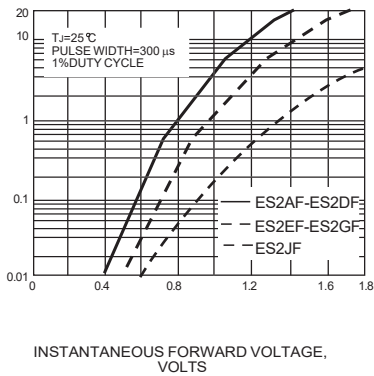
PEAK FORWARD SURGE CURRENT,  
AMPERES

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



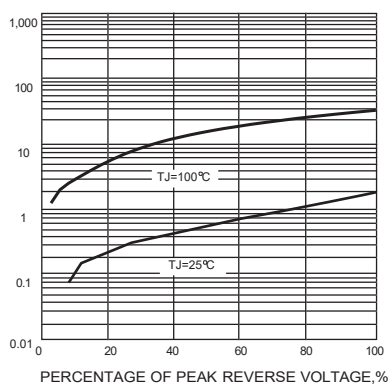
INSTANTANEOUS FORWARD  
CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



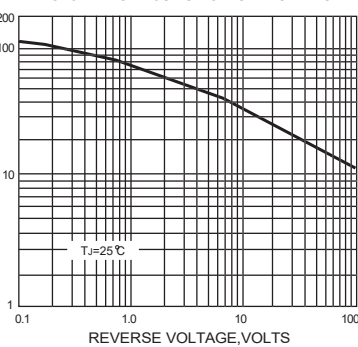
INSTANTANEOUS REVERSE CURRENT,  
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



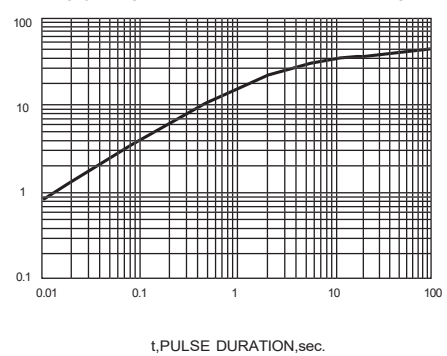
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.