

## SUPER FAST RECTIFIERS

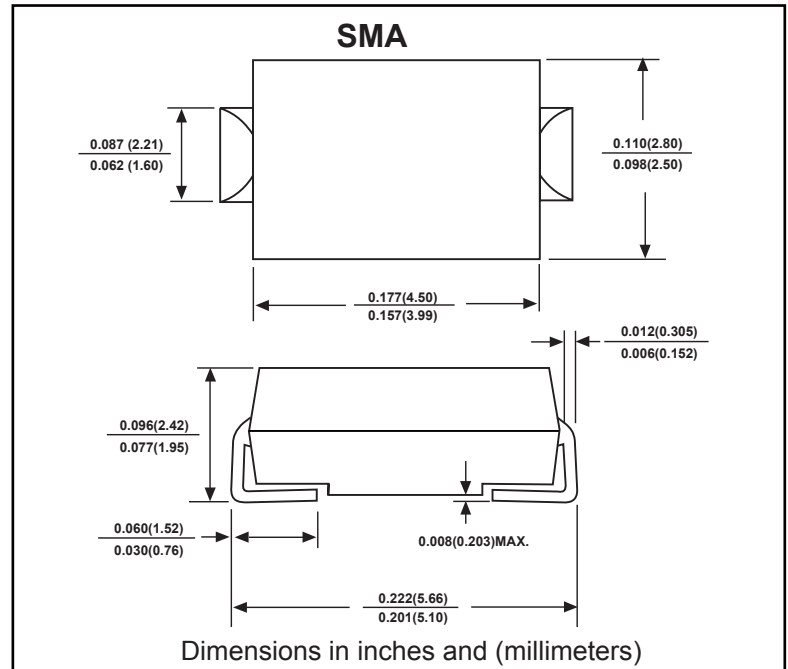
VOLTAGE RANGE: 50--- 600 V CURRENT: 3.0 A

### FEATURES

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Super fast switching for high efficiency
- 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

### MECHANICAL DATA

- Case: SMA molded plastic body
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any



### MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate by 20%.

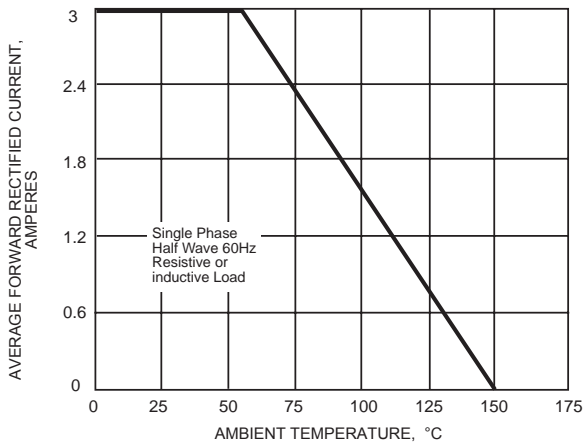
|  |                           | ES3A            | ES3B | ES3C | ES3D | ES3E | ES3G | ES3H | ES3J | UNITS              |
|--|---------------------------|-----------------|------|------|------|------|------|------|------|--------------------|
| Maximum recurrent peak reverse voltage   | $V_{RRM}$                 | 50              | 100  | 150  | 200  | 300  | 400  | 500  | 600  | V                  |
| Maximum RMS voltage  | $V_{RMS}$                 | 35              | 70   | 105  | 140  | 210  | 280  | 420  | 560  | V                  |
| Maximum DC blocking voltage  | $V_{DC}$                  | 50              | 100  | 150  | 200  | 300  | 400  | 500  | 600  | V                  |
| Maximum Average Forward Rectified Current, 375"(9.5mm) Lead Length at $T_A=55^\circ\text{C}$       | $I_{F(AV)}$               | 3.0             |      |      |      |      |      |      |      | A                  |
| Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$                 | 100.0           |      |      |      |      |      |      |      | A                  |
| Maximum Instantaneous Forward Voltage at 3.0A  | $V_F$                     | 1.0             |      |      | 1.3  |      | 1.7  |      |      | V                  |
| Maximum reverse current at rated DC blocking voltage   | @ $T_A=25^\circ\text{C}$  | 10.0            |      |      |      |      |      |      |      | $\mu\text{A}$      |
|  | @ $T_A=100^\circ\text{C}$ | 100.0           |      |      |      |      |      |      |      |                    |
| Maximum reverse recovery time (Note1)  | $t_{rr}$                  | 35.0            |      |      |      |      |      |      |      | ns                 |
| Typical junction capacitance (Note2)   | $C_J$                     | 130.0           |      |      |      |      |      |      |      | pF                 |
| Typical thermal resistance(Note3)  | $R_{\theta JA}$           | 40.0            |      |      |      |      |      |      |      | $^\circ\text{C/W}$ |
| Operating junction temperature range   | $T_j$                     | - 55 ---- + 125 |      |      |      |      |      |      |      | $^\circ\text{C}$   |
| Storage temperature range  | $T_{STG}$                 | - 55 ---- + 150 |      |      |      |      |      |      |      | $^\circ\text{C}$   |

- 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

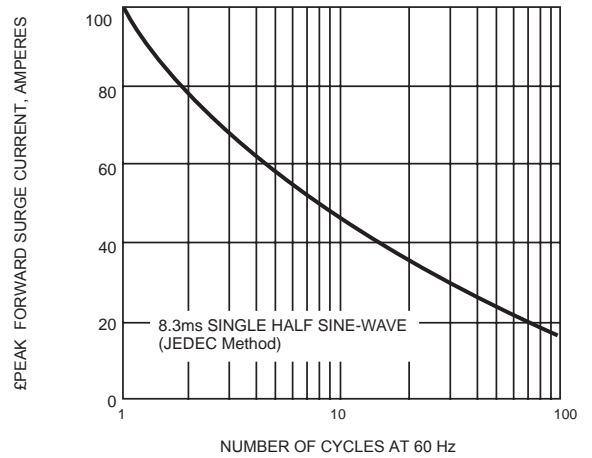


# RATINGS AND CHARACTERISTIC CURVES

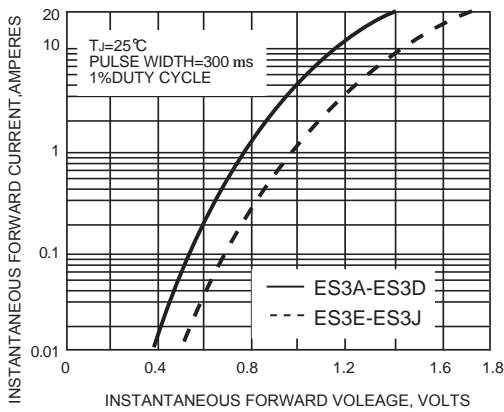
**FIG. 1- FORWARD CURRENT DERATING CURVE**



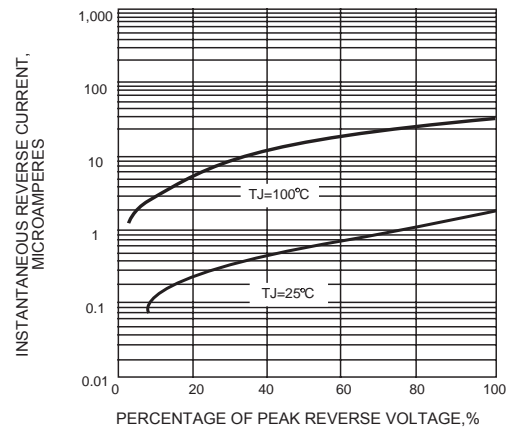
**FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



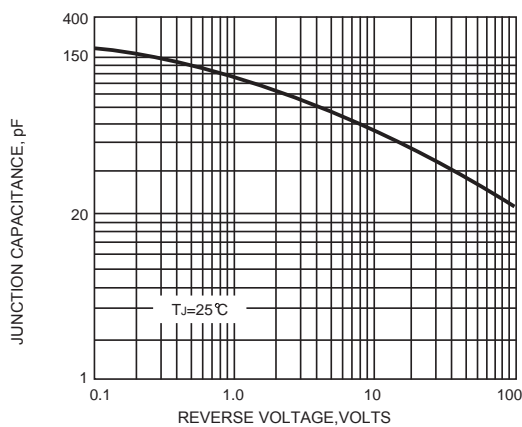
**FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 4-TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5-TYPICAL JUNCTION CAPACITANCE**



**FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE**

