

# ES2A thru ES2J

## SURFACE MOUNT SUPER FAST GLASS PASSIVATED RECTIFIERS

REVERSE VOLTAGE - **50** to **600** Volts  
FORWARD CURRENT - **2.0** Amperes

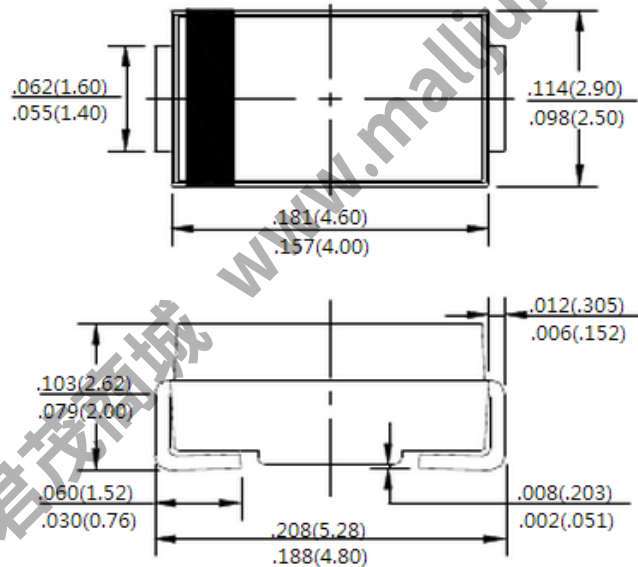
### FEATURES

- Super fast switching time for high efficiency
- Low forward voltage drop and high current capability
- Low reverse leakage current
- Plastic material has UL flammability classification 94V-0

### MECHANICAL DATA

- Case: Molded Plastic
- Polarity: Color band denotes cathode
- Weight: 0.003 ounces, 0.093 grams
- Mounting position: Any

SMA



Dimensions in inches and (millimeters)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave ,60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| CHARACTERISTICS                                                                                               | SYMBOL            | ES2A        | ES2B | ES2D | ES2G | ES2J | UNIT |
|---------------------------------------------------------------------------------------------------------------|-------------------|-------------|------|------|------|------|------|
| Maximum Recurrent Peak Reverse Voltage                                                                        | V <sub>RRM</sub>  | 50          | 100  | 200  | 400  | 600  | V    |
| Maximum RMS Voltage                                                                                           | V <sub>RMS</sub>  | 35          | 70   | 140  | 280  | 420  | V    |
| Maximum DC Blocking Voltage                                                                                   | V <sub>DC</sub>   | 50          | 100  | 200  | 400  | 600  | V    |
| Maximum Average Forward Rectified Current<br>@T <sub>A</sub> =50 °C                                           | I <sub>(AV)</sub> | 2.0         |      |      |      |      | A    |
| Peak Forward Surge Current<br>8.3ms Single Half Sine-Wave<br>Super Imposed on Rated Load(JEDEC Method)        | I <sub>FSM</sub>  | 75          |      |      |      |      | A    |
| Peak Forward Voltage at 2.0A DC                                                                               | V <sub>F</sub>    | 0.95        |      |      | 1.25 | 1.70 | V    |
| Maximum DC Reverse Current<br>@T <sub>J</sub> =25°C<br>at Rated DC Blocking Voltage<br>@T <sub>J</sub> =100°C | I <sub>R</sub>    | 5.0<br>100  |      |      |      |      | μA   |
| Maximum Reverse Recovery Time(Note 1)                                                                         | T <sub>RR</sub>   | 35          |      |      |      |      | nS   |
| Typical Junction Capacitance (Note2)                                                                          | C <sub>J</sub>    | 40          |      |      | 30   |      | pF   |
| Typical Thermal Resistance (Note3)                                                                            | R <sub>θJA</sub>  | 25          |      |      |      |      | °C/W |
| Operating Temperature Range                                                                                   | T <sub>J</sub>    | -55 to +150 |      |      |      |      | °C   |
| Storage Temperature Range                                                                                     | T <sub>STG</sub>  | -55 to +150 |      |      |      |      | °C   |

NOTES: 1.Measured with I<sub>F</sub>=0.5A, I<sub>R</sub>=1A, I<sub>RR</sub>=0.25A

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

3.Thermal resistance junction to ambient.

FIG. 1 – FORWARD CURRENT DERATING CURVE

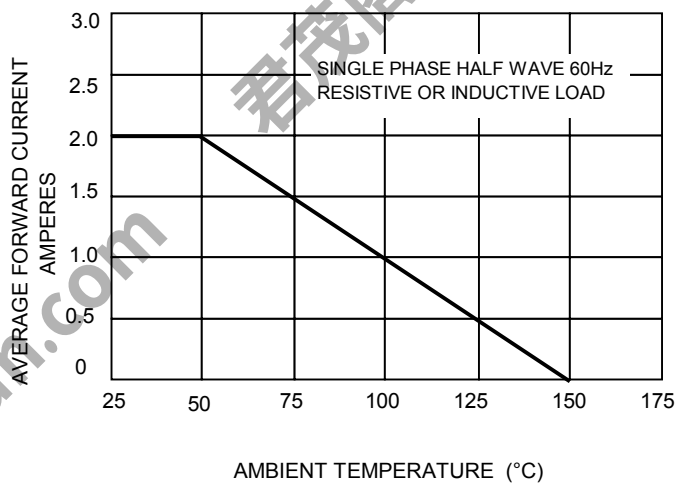


FIG. 2 – MAXIMUM NON-REPETITIVE SURGE CURRENT

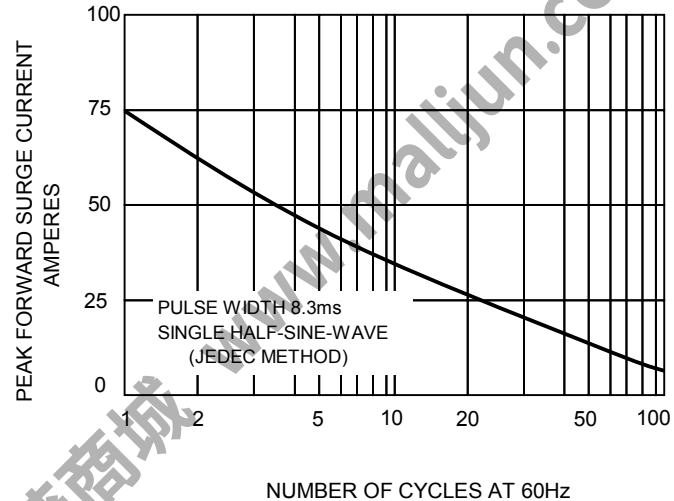


FIG.3 – TYPICAL JUNCTION CAPACITANCE

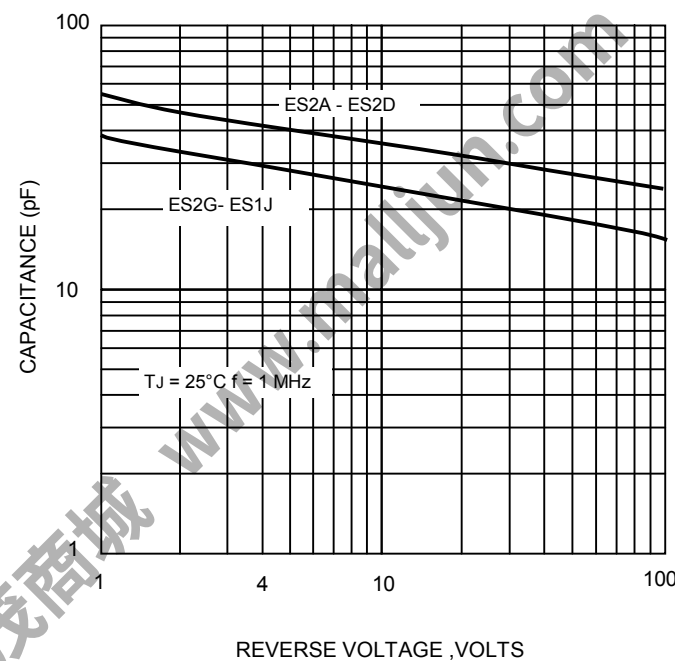


FIG.4-TYPICAL FORWARD CHARACTERISTICS

