



# ES1A~ES1J

## SURFACE MOUNT SUPERFAST RECTIFIER

**VOLTAGE** 50 to 600 Volts **CURRENT** 1.0 Amperes

SMA / DO-214AC

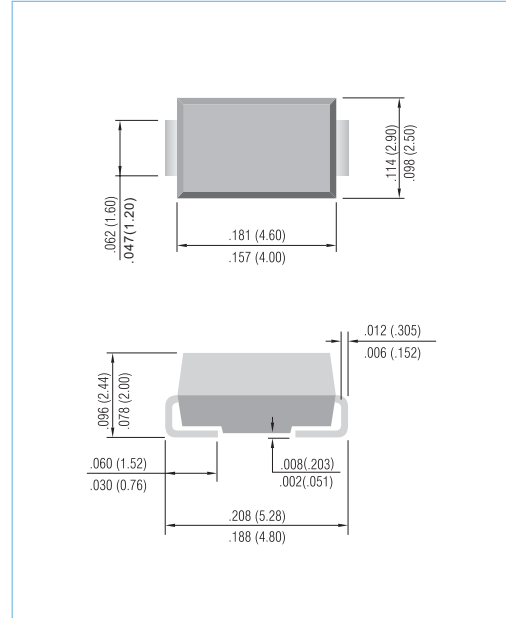
Unit: inch ( mm )

### FEATURES

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Superfast recovery times for high efficiency.
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated junction
- In compliance with EU RoHS 2002/95/EC directives

### MECHANICAL DATA

- Case: JEDEC DO-214AC molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Indicated by cathode band
- Standard packaging: 12mm tape (EIA-481)
- Weight: 0.0023 ounce, 0.0679 gram



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| PARAMETER   | SYMBOL          | ES1A        | ES1B | ES1C | ES1D | ES1E | ES1G | ES1J | UNITS           |
|---|-----------------|-------------|------|------|------|------|------|------|-----------------|
| Maximum Recurrent Peak Reverse Voltage  | $V_{RRM}$       | 50          | 100  | 150  | 200  | 300  | 400  | 600  | V               |
| Maximum RMS Voltage   | $V_{RMS}$       | 35          | 70   | 105  | 140  | 210  | 280  | 420  | V               |
| Maximum DC Blocking Voltage   | $V_{DC}$        | 50          | 100  | 150  | 200  | 300  | 400  | 600  | V               |
| Maximum Average Forward Current at $T_L=120^{\circ}C$   | $I_{F(AV)}$     | 1.0         |      |      |      |      |      |      | A               |
| Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load(JEDEC method) | $I_{FSM}$       | 30          |      |      |      |      |      |      | A               |
| Maximum Forward Voltage at 1.0A   | $V_F$           | 0.95        |      |      |      | 1.25 |      | 1.7  | V               |
| Maximum DC Reverse Current $T_J=25^{\circ}C$<br>at Rated DC Blocking Voltage $T_J=100^{\circ}C$   | $I_R$           | 1.0         |      |      |      | 150  |      |      | $\mu A$         |
| Maximum Reverse Recovery Time (NOTE 1)  | $t_{rr}$        | 35          |      |      |      |      |      |      | ns              |
| Typical Junction capacitance (Note 2)   | $C_J$           | 7.0         |      |      |      |      |      |      | pF              |
| Typical Thermal Resistance (Note 3)   | $R_{\theta JL}$ | 35          |      |      |      |      |      |      | $^{\circ}C / W$ |
| Operating Junction and Storage Temperature Range  | $T_J, T_{STG}$  | -55 to +150 |      |      |      |      |      |      | $^{\circ}C$     |

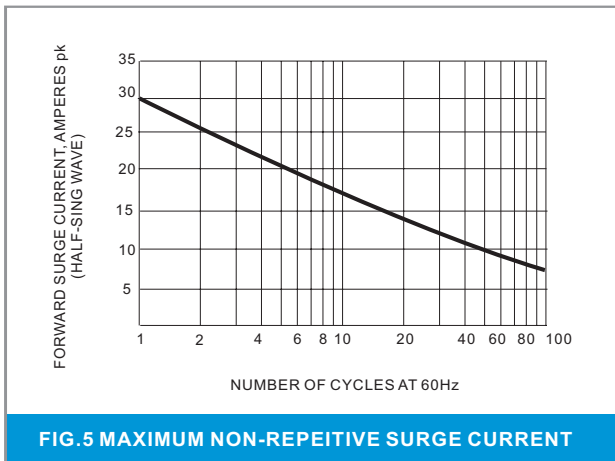
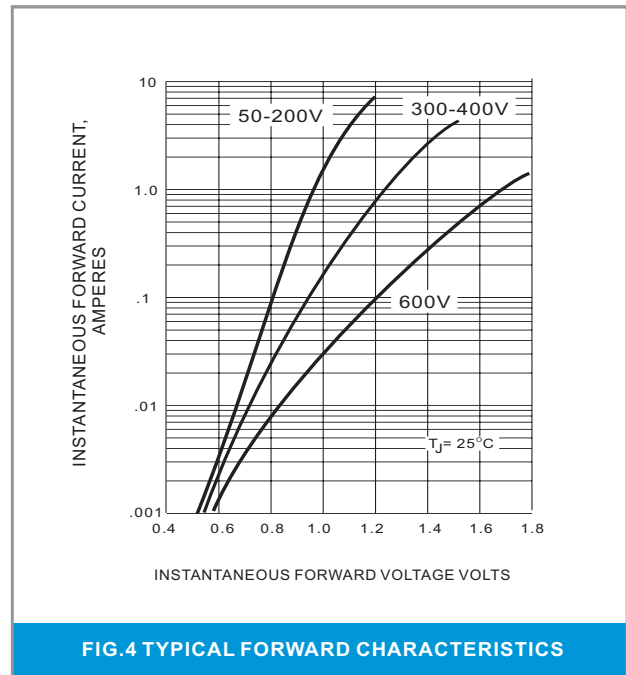
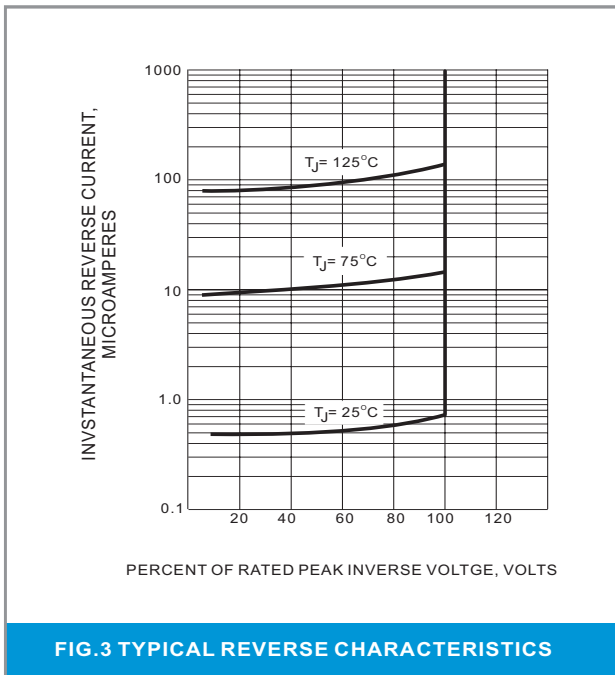
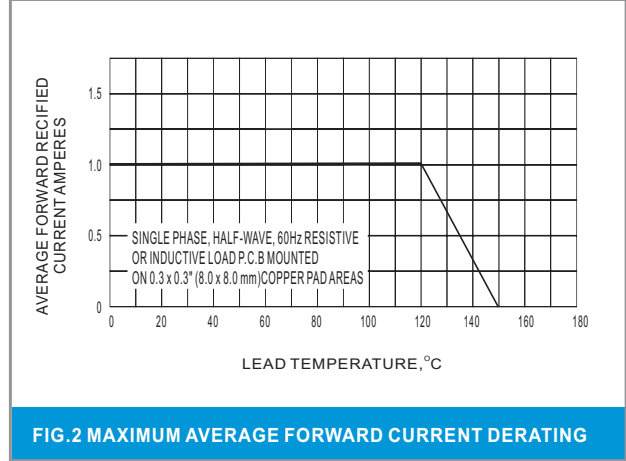
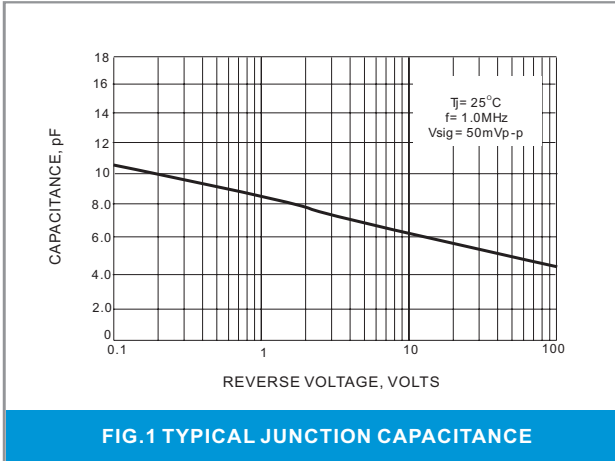
#### NOTES:

- 1.Reverse Recovery Tset Conditions: $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$
- 2.Measured at 1.0MHz and applied reverse voltage of 4.0 volts.
- 3.8.0mm<sup>2</sup>(.013mm thick) land areas.



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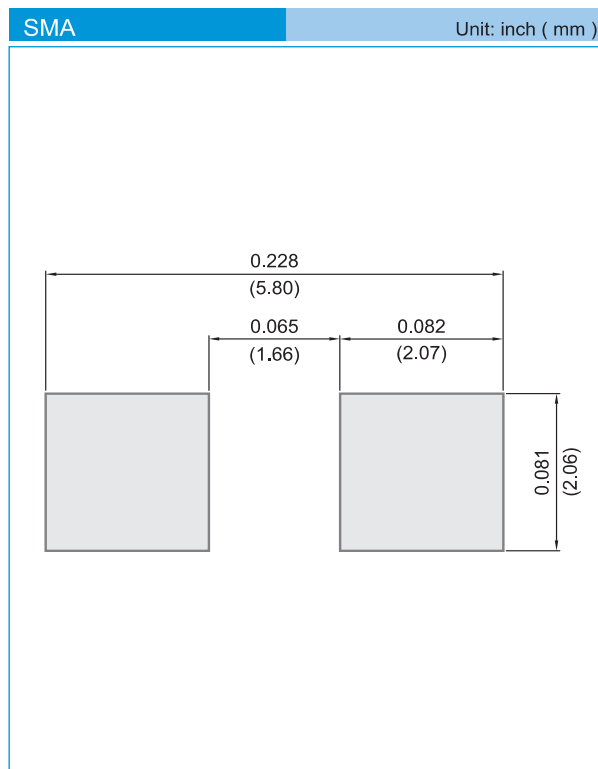
## RATING AND CHARACTERISTIC CURVES





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## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information
  - T/R - 7.5K per 13" plastic Reel
  - T/R - 1.8Kper 7" plastic Reel

## LEGAL STATEMENT

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