



ES1A~ES1J

SURFACE MOUNT SUPERFAST RECTIFIER

VOLTAGE 50 to 600 Volt **CURRENT** 1 Ampere

SMA / DO-214AC

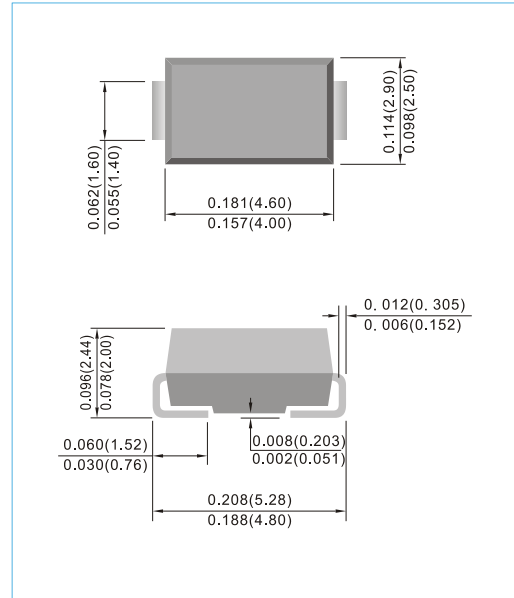
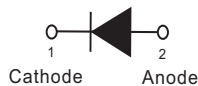
Unit : inch(mm)

FEATURES

- For surface mounted applications in order to optimize board space
- 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
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

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 ounces, 0.0679 grams



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 $T_L=120^\circ\text{C}$ | $I_{F(AV)}$ | 1 | | | | | | | A |
| Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 30 | | | | | | | A |
| Maximum Forward Voltage at 1A | V_F | 0.95 | | | 1.25 | | 1.7 | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$ | I_R | | | | 1 150 | | | | μA |
| Maximum Reverse Recovery Time (Note 1) | t_{rr} | | | | 35 | | | | ns |
| Typical Junction Capacitance (Note 2) | C_J | | | | 7 | | | | pF |
| Typical Thermal Resistance (Note 3) | $R_{\theta JL}$ | | | | 35 | | | | $^\circ\text{C} / \text{W}$ |
| Operating Junction and Storage Temperature Range | T_J, T_{STG} | | | | -55 to +150 | | | | $^\circ\text{C}$ |

NOTES:

- 1.Reverse Recovery Tset Conditions: $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$
- 2.Measured at 1.0MHz and applied reverse voltage of 4.0 volt
- 3.8.0mm²(0.013mm thick) land areas.



ES1A~ES1J

RATING AND CHARACTERISTIC CURVES

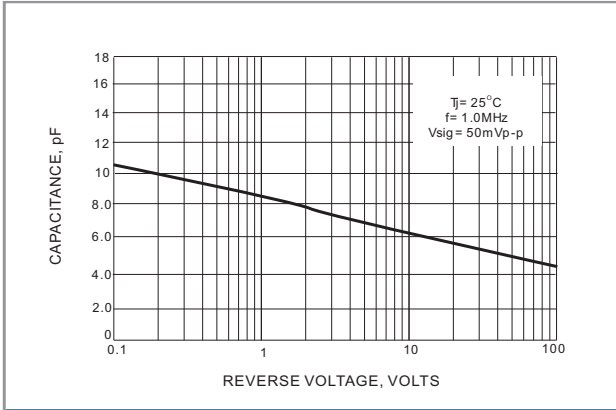


FIG.1 TYPICAL JUNCTION CAPACITANCE

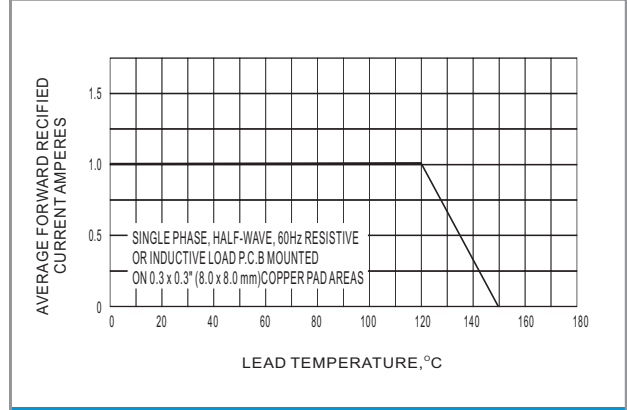


FIG.2 MAXIMUM AVERAGE FORWARD CURRENT DERATING

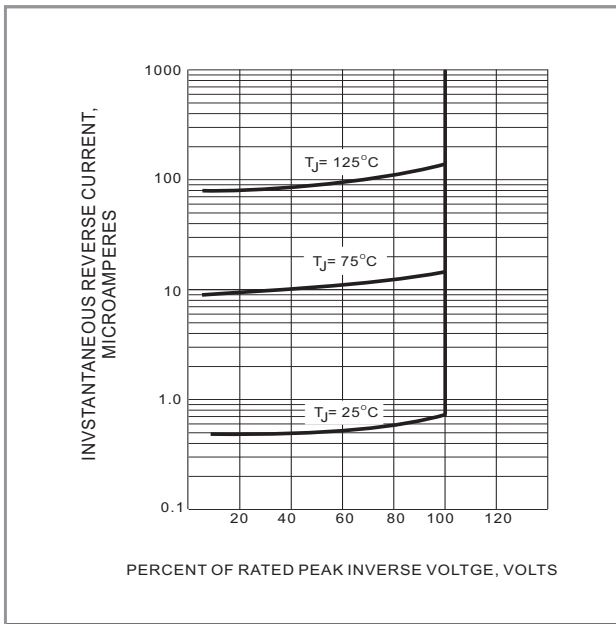


FIG.3 TYPICAL REVERSE CHARACTERISTICS

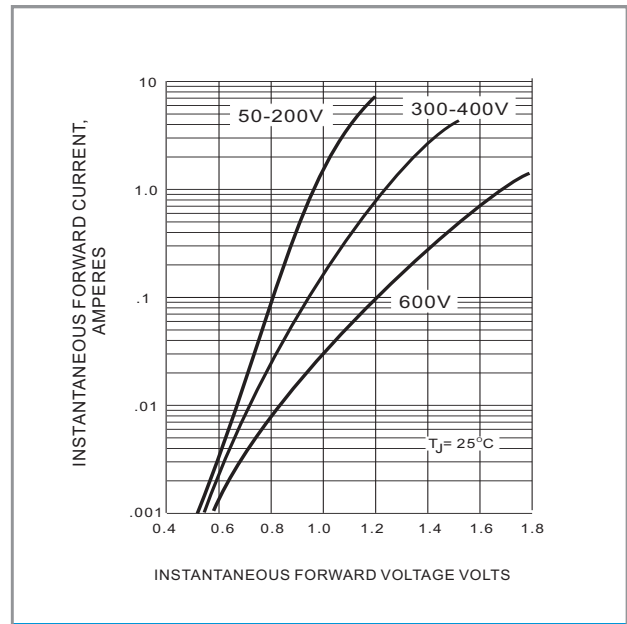


FIG.4 TYPICAL FORWARD CHARACTERISTICS

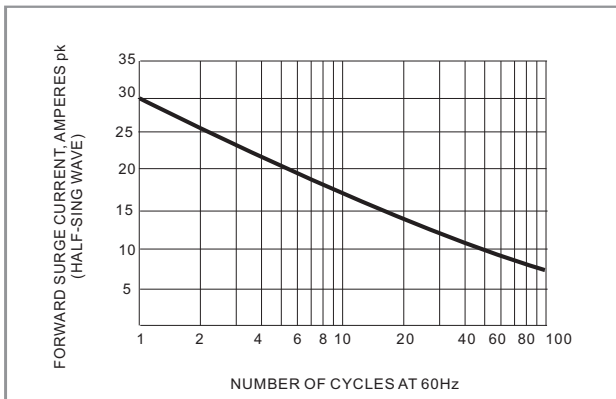
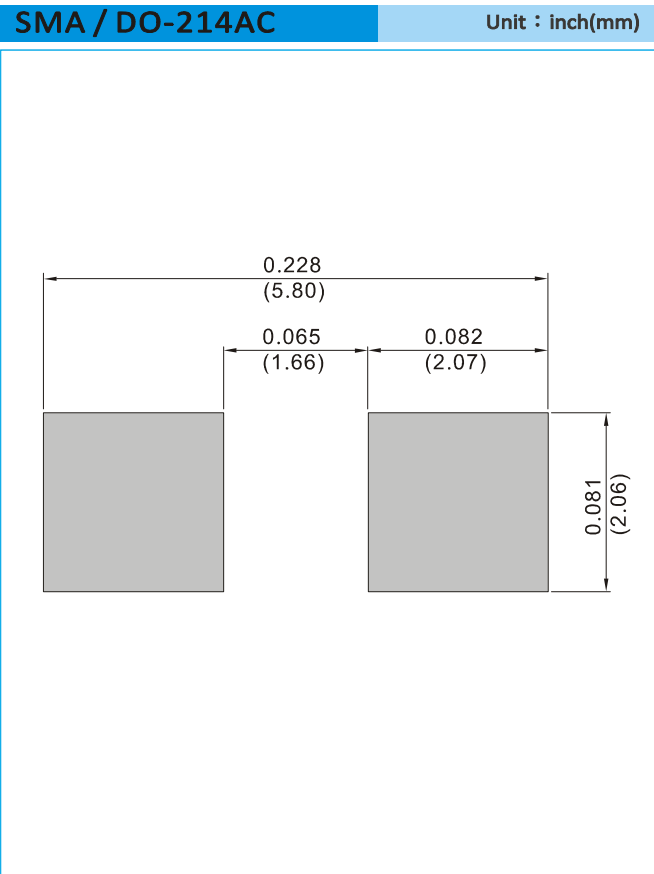


FIG.5 MAXIMUM NON-REPEITIVE SURGE CURRENT



ES1A~ES1J

MOUNTING PAD LAYOUT



ORDER INFORMATION

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



ES1A~ES1J

Part No_packing code_Version

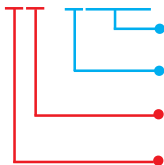
ES1A_R1_00001

ES1A_R2_00001

For example :

RB500V-40_R2_00001

Part No.



Serial number

Version code means HF

Packing size code means 13"

Packing type means T/R

| Packing Code XX | | | | Version Code XXXXX | | |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type | 1 st Code | Packing size code | 2 nd Code | HF or RoHS | 1 st Code | 2 nd ~5 th Code |
| Tape and Ammunition Box (T/B) | A | N/A | 0 | HF | 0 | serial number |
| Tape and Reel (T/R) | R | 7" | 1 | RoHS | 1 | serial number |
| Bulk Packing (B/P) | B | 13" | 2 | | | |
| Tube Packing (T/P) | T | 26mm | X | | | |
| Tape and Reel (Right Oriented) (TRR) | S | 52mm | Y | | | |
| Tape and Reel (Left Oriented) (TRL) | L | PANASERT T/B CATHODE UP (PBCU) | U | | | |
| FORMING | F | PANASERT T/B CATHODE DOWN (PBCD) | D | | | |



ES1A~ES1J

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