

## ES1A THRU ES1J

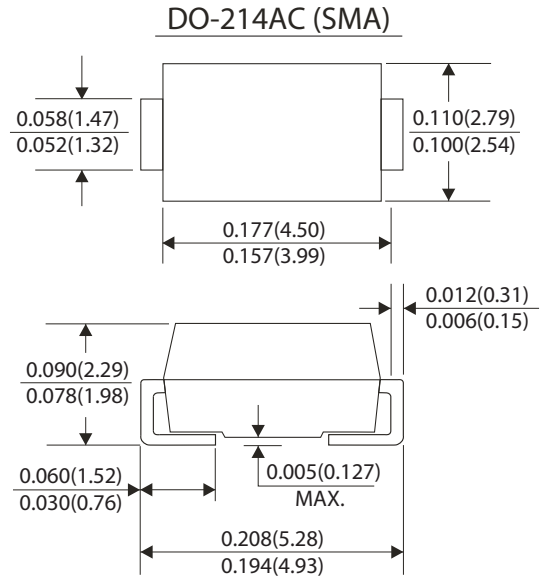
CURRENT 1.0 Ampere  
VOLTAGE 50 to 400 Volts

### Features

- For surface applications in order to optimize board space
- Low profile package
- Built-in strain relief, ideal for automated placement
- Super fast recovery time
- Glass passivated junction
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes
- Low forward voltage drop
- Glass passivated chip junction
- High temperature soldering guaranteed : 250 °C/10 seconds, at terminals

### Mechanical Data

- Case : JEDEC SMA(DO-214AC) molded plastic body
- Terminals : Plated axial lead solderable per MIL-STD-750, method 2026
- Polarity : Color band denotes cathode end
- Mounting Position : Any
- Weight : 0.002 ounce, 0.064 gram



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, derate by 20%)

|  | Symbols                            | ES1A        | ES1B | ES1C | ES1D | ES1G | ES1J | Units |
|--|------------------------------------|-------------|------|------|------|------|------|-------|
| Maximum recurrent peak reverse voltage   | V <sub>RRM</sub>                   | 50          | 100  | 150  | 200  | 400  | 600  | Volts |
| Maximum RMS voltage  | V <sub>RMS</sub>                   | 35          | 70   | 105  | 140  | 380  | 420  | Volts |
| Maximum DC blocking voltage  | V <sub>DC</sub>                    | 50          | 100  | 150  | 200  | 400  | 600  | Volts |
| Maximum average forward rectified current at T <sub>L</sub> =120 °C                              | I <sub>(AV)</sub>                  | 1.0         |      |      |      |      |      | Amp   |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | I <sub>FSM</sub>                   | 30.0        |      |      |      |      |      | Amps  |
| Maximum instantaneous forward voltage at 1.0A  | V <sub>F</sub>                     | 0.95        |      |      |      | 1.25 |      | Volts |
| Maximum reverse current at rated voltage   | T <sub>A</sub> =25 °C              | 5.0         |      |      |      |      |      | μA    |
|  | T <sub>A</sub> =100 °C             | 100         |      |      |      |      |      |       |
| Maximum reverse recovery time (Note 1)   | T <sub>rr</sub>                    | 35          |      |      |      |      |      | ns    |
| Typical thermal resistance (Note 3)  | R <sub>θJL</sub>                   | 35.0        |      |      |      |      |      | °C/W  |
|  | R <sub>θJA</sub>                   | 85.0        |      |      |      |      |      |       |
| Typical junction capacitance (Note 2)  | C <sub>J</sub>                     | 7.0         |      |      |      |      |      | pF    |
| Operating junction and storage temperature range   | T <sub>J</sub><br>T <sub>STG</sub> | -55 to +150 |      |      |      |      |      | °C    |

#### Notes:

- (1) Test conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>rr</sub>=0.25A.
- (2) Measured at 1MHz and applied reverse voltage of 4.0 Volts.
- (3) P.C.B mounted on 0.2×0.2"(5.0×5.0mm) copper pad areas

## RATINGS AND CHARACTERISTIC CURVES ES1A THRU ES1J

FIG.1-FORWARD CURRENT DERATING CURVE

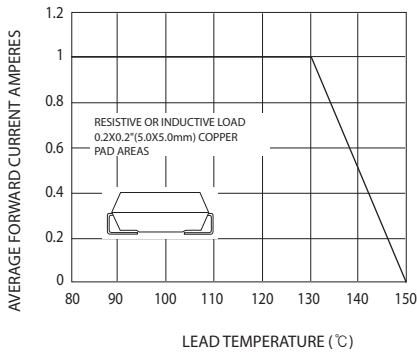


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

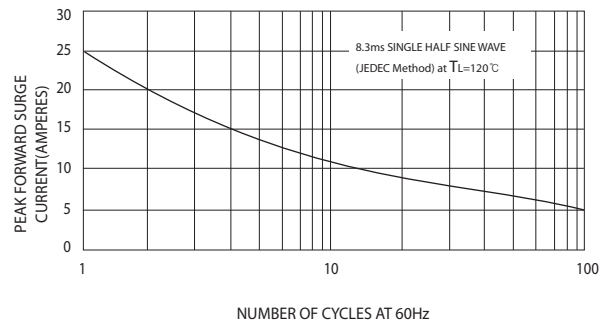


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

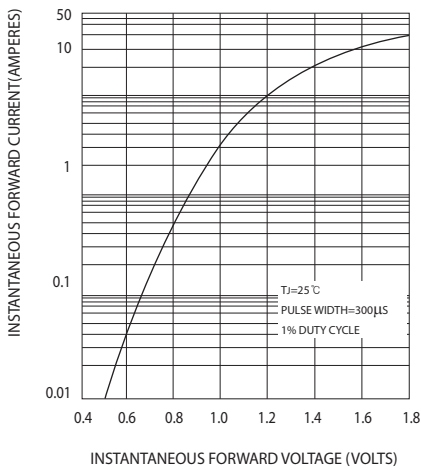


FIG.4-TYPICAL REVERSE CHARACTERISTICS

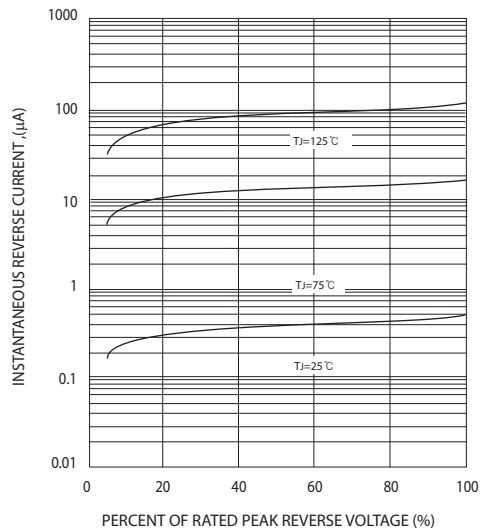


FIG.5-TYPICAL JUNCTION CAPACITANCE

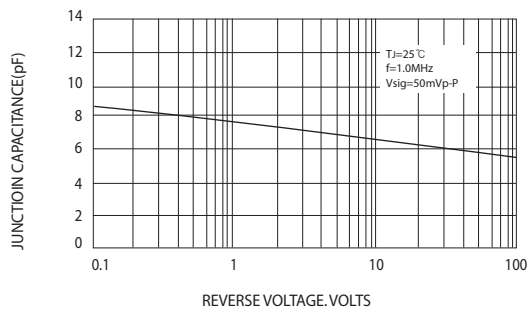
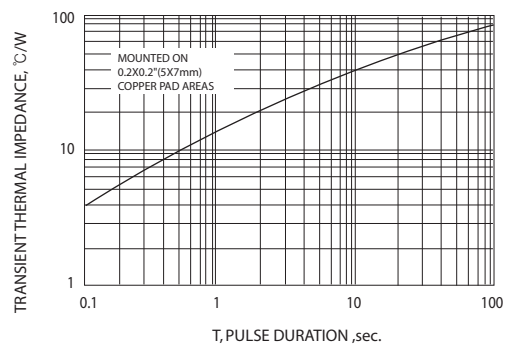


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE



## RATINGS AND CHARACTERISTIC CURVES ES1A THRU ES1J

FIG.1-FORWARD CURRENT DERATING CURVE

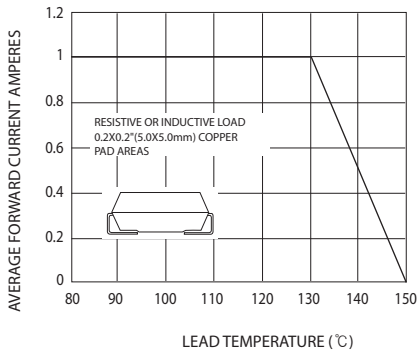


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

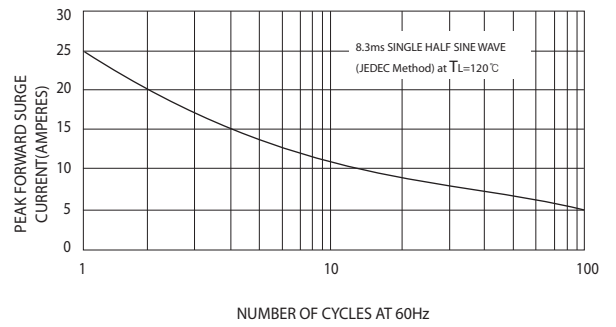


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

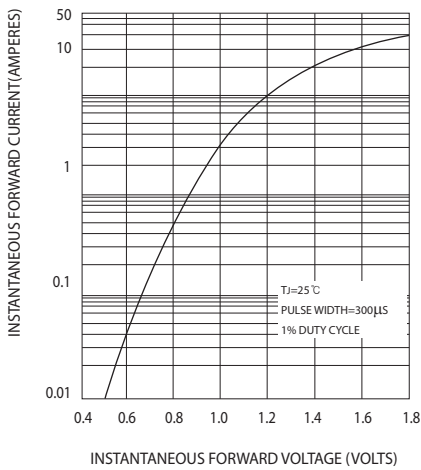


FIG.4-TYPICAL REVERSE CHARACTERISTICS

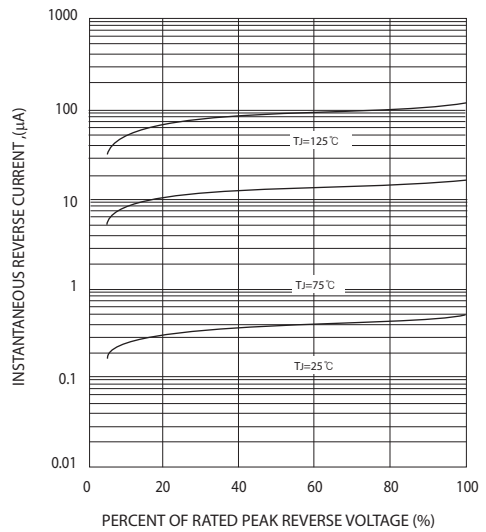


FIG.5-TYPICAL JUNCTION CAPACITANCE

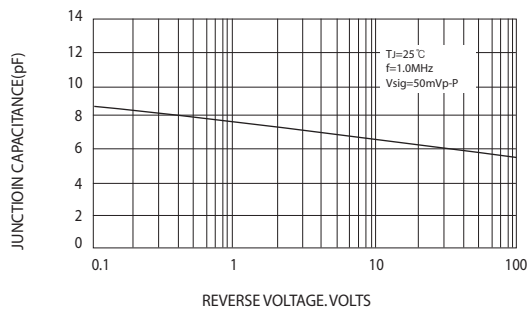


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

