

### Surface Mount Super Fast Rectifiers

 Lead(Pb)-Free

#### Features:

- \*For Surface Mount Application
- \*Glass Passivated Chip
- \*Low Reverse Leakage Current
- \*Low Forward Voltage Drop And High Current Capability
- \*Super Fast Switching For High Efficiency
- \*Plastic Material Has UL Flammability Classification 94V-0

**REVERSE VOLTAGE**  
**50 TO 600 VOLTS**  
**FORWARD CURRENT**  
**1.0 AMPERE**



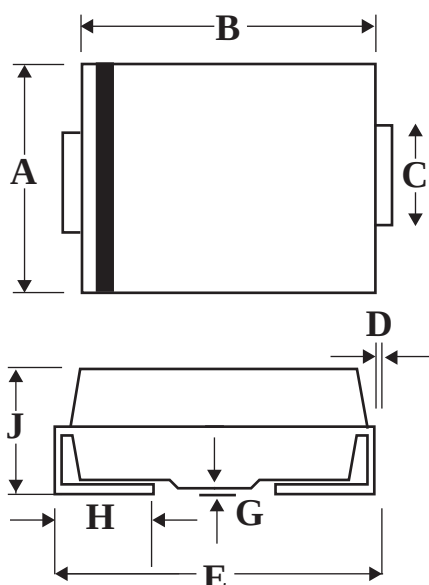
**SMA(DO-214AC)**

#### Mechanical Data

- \*Case : Molded Plastic
- \*Polarity : Indicated by cathode band
- \*Weight : 0.002 Ounce , 0.064 grams

### SMA Outline Dimension

Unit:mm



| SMA |      |      |
|-----|------|------|
| Dim | Min  | Max  |
| A   | 2.20 | 2.92 |
| B   | 4.00 | 4.60 |
| C   | 1.27 | 1.63 |
| D   | 0.15 | 0.31 |
| E   | 4.48 | 5.59 |
| G   | 0.10 | 0.20 |
| H   | 0.76 | 1.52 |
| J   | 1.70 | 2.62 |

## Maximum Ratings and Electrical Characteristics

Rating 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           | ES1A       | ES1B | ES1D | ES1G | ES1J | Unit           |
|----------------------------------------------------------------------------------------------------|------------------|------------|------|------|------|------|----------------|
| Maximum Recurrent Peak Reverse Voltage                                                             | VRRM             | 50         | 100  | 200  | 400  | 600  | V              |
| Maximum RMS Voltage                                                                                | VRMS             | 35         | 70   | 140  | 280  | 420  | V              |
| Maximum DC Blocking Voltage                                                                        | VDC              | 50         | 100  | 200  | 400  | 600  | V              |
| Maximum Average Forward Rectified Current @TC=110°C                                                | IF(AV)           | 1.0        |      |      |      |      | A              |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) | IFSM             | 30         |      |      |      |      | A              |
| Maximum Instantaneous At 1.0A DC                                                                   | VF               | 0.95       |      |      | 1.30 | 1.50 | V              |
| Maximum DC Reverse Current @Tj=25°C<br>At Rated DC Blocking Voltage @Tj=125°C                      | IR               | 5.0<br>200 |      |      |      |      | uA             |
| Maximum Reverse Recovery Time(Note1)                                                               | Trr              | 35         |      |      |      |      | nS             |
| Typical Junction Capacitance (Note 2)                                                              | C <sub>J</sub>   | 10         |      |      |      |      | P <sub>F</sub> |
| Typical Thermal Resistance (Note 3)                                                                | R <sub>θJL</sub> | 25         |      |      |      |      | °C/W           |
| Operating Temperature Range                                                                        | T <sub>J</sub>   | -55 to+150 |      |      |      |      | °C             |
| Storage Temperature Range                                                                          | TSTG             | -55 to+150 |      |      |      |      | °C             |

NOTES:1.Reverse Recovery Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A.

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

3.Thermal Resistance Junction to case.

FIG.1 - FORWARD CURRENT DERATING CURVE

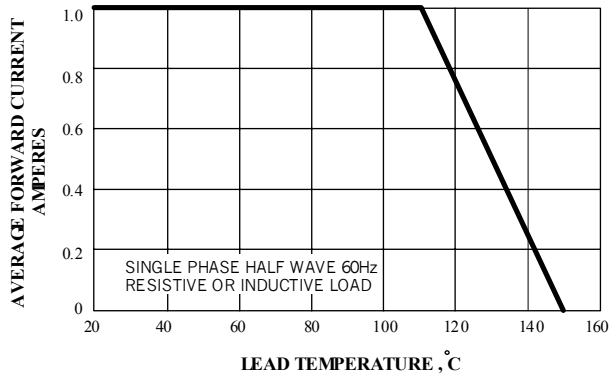


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

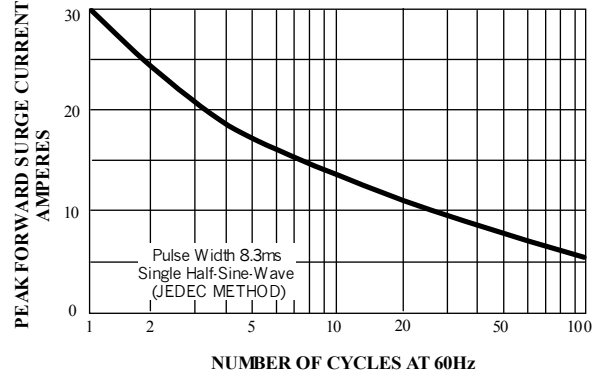


FIG.3 - TYPICAL FORWARD CHARACTERISTICS

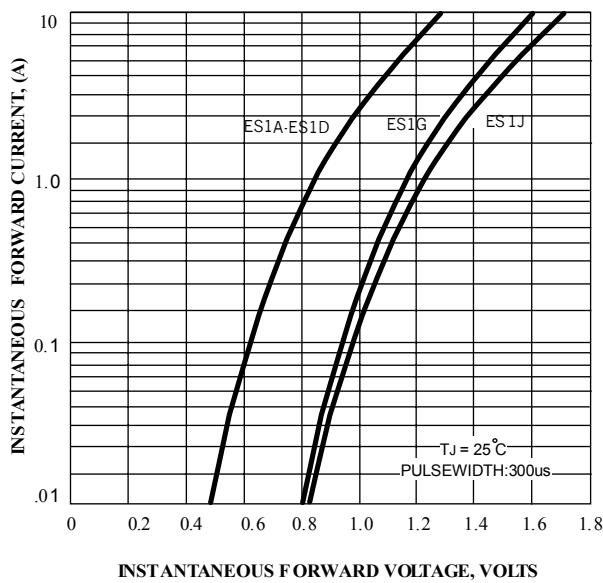


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

