

**VOLTAGE RANGE: 50 - 600V**

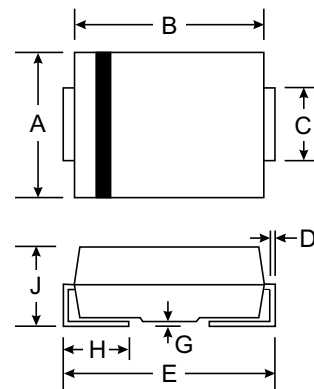
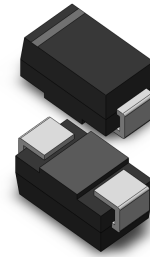
**CURRENT: 1.0 A**

### Features

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Forward Voltage Drop, High Efficiency
- Low Power Loss
- Super-Fast Recovery Time
- Plastic Case Material has UL Flammability Classification Rating 94V-0

### Mechanical Data

- Case: SMA/DO-214AC, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.064 grams (approx.)



| SMA(DO-214AC)        |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 2.29 | 2.92 |
| B                    | 4.00 | 4.60 |
| C                    | 1.27 | 1.63 |
| D                    | 0.15 | 0.31 |
| E                    | 4.80 | 5.59 |
| G                    | 0.10 | 0.20 |
| H                    | 0.76 | 1.52 |
| J                    | 2.01 | 2.62 |
| All Dimensions in mm |      |      |

### Maximum Ratings and Electrical Characteristics T<sub>A</sub> = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Characteristic                                                                                                        | Symbol                                                 | ES1A        | ES1B | ES1C | ES1D | ES1E | ES1G | ES1J | Unit |
|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------|------|------|------|------|------|------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                                | V <sub>RRM</sub><br>V <sub>RWM</sub><br>V <sub>R</sub> | 50          | 100  | 150  | 200  | 300  | 400  | 600  | V    |
| RMS Reverse Voltage                                                                                                   | V <sub>R(RMS)</sub>                                    | 35          | 70   | 105  | 140  | 210  | 280  | 420  | V    |
| Average Rectified Output Current @T <sub>L</sub> = 120°C                                                              | I <sub>O</sub>                                         | 1.0         |      |      |      |      |      |      | A    |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single half sine-wave superimposed on<br>rated load (JEDEC Method) | I <sub>FSM</sub>                                       | 30          |      |      |      |      |      |      | A    |
| Forward Voltage @I <sub>F</sub> = 1.0A                                                                                | V <sub>FM</sub>                                        | 0.95        |      |      |      | 1.25 |      | 1.7  | V    |
| Peak Reverse Current @T <sub>A</sub> = 25°C<br>At Rated DC Blocking Voltage @T <sub>A</sub> = 100°C                   | I <sub>RM</sub>                                        | 5.0<br>500  |      |      |      |      |      |      | μA   |
| Reverse Recovery Time (Note 1)                                                                                        | t <sub>rr</sub>                                        | 35          |      |      |      |      |      |      | nS   |
| Typical Junction Capacitance (Note 2)                                                                                 | C <sub>j</sub>                                         | 10          |      |      |      |      |      |      | pF   |
| Typical Thermal Resistance (Note 3)                                                                                   | R <sub>θJL</sub>                                       | 35          |      |      |      |      |      |      | °C/W |
| Operating and Storage Temperature Range                                                                               | T <sub>J</sub> , T <sub>STG</sub>                      | -65 to +150 |      |      |      |      |      |      | °C   |

Note: 1. Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>rr</sub> = 0.25A. See figure 5.  
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.  
 3. Mounted on P.C. Board with 8.0mm<sup>2</sup> land area.

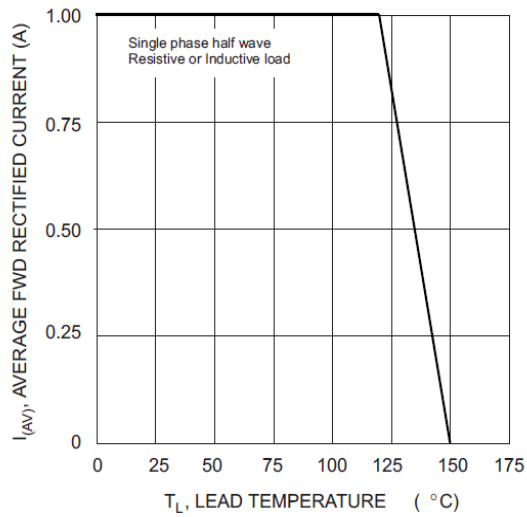


Fig. 1 Forward Current Derating Curve

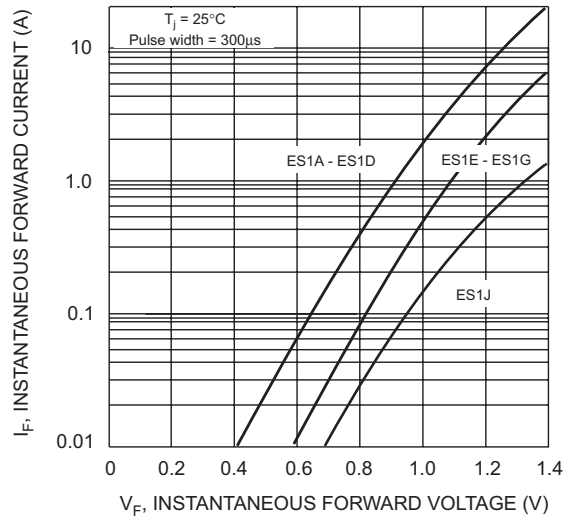


Fig. 2 Typical Forward Characteristics

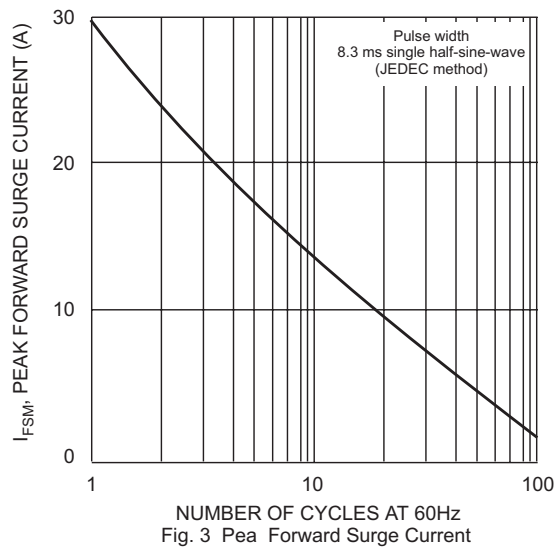


Fig. 3 Peak Forward Surge Current

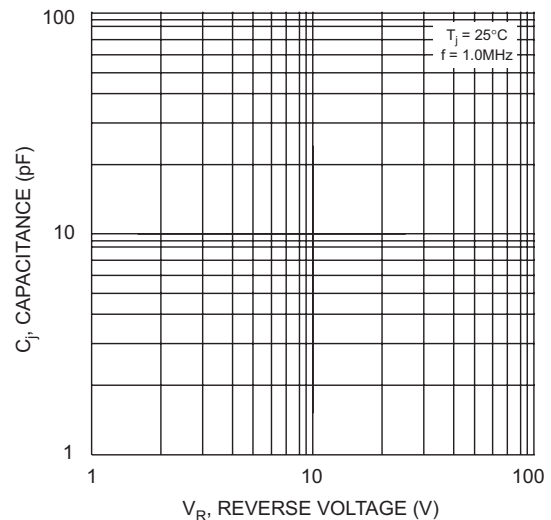
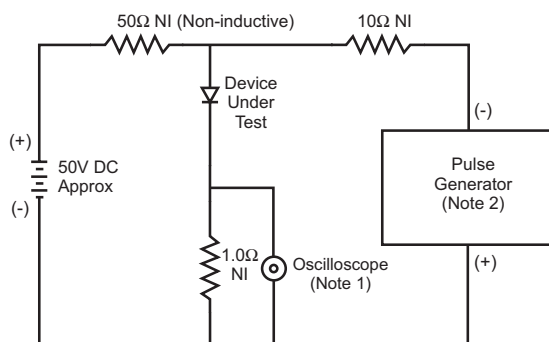
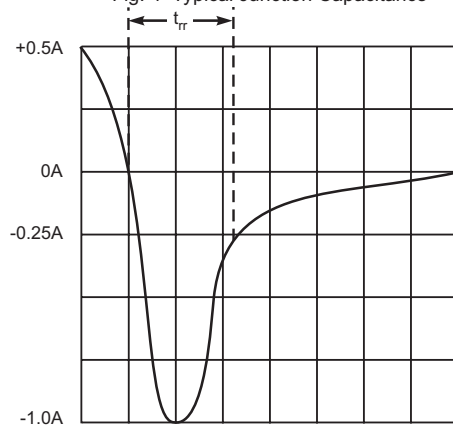


Fig. 4 Typical Junction Capacitance



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0M $\Omega$ , 22pF.
  2. Rise Time = 10ns max. Input Impedance = 50 $\Omega$ .



Set time base for 5/10ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit