

### Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Idea for printed circuit board
- ◆ Glass passivated Junction chip
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed  
250°C/10 seconds at terminals

### Mechanical Data

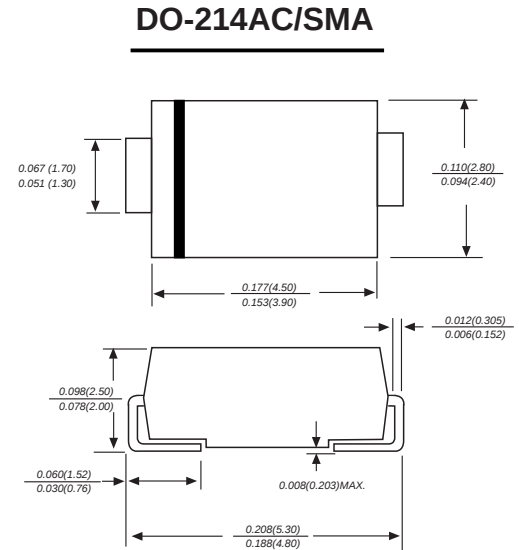
**Case :** Molded plastic body

**Terminals :** Solder plated, solderable per MIL-STD-750,Method 2026

**Polarity :** Polarity symbol marking on body

**Mounting Position :** Any

**Weight :** 0.0023 ounce, 0.07 grams



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 current derate by 20%.

| Parameter                                                                                                   | SYMBOLS                          | ES1A        | ES1B | ES1C | ES1D | ES1F | ES1G | ES1J | UNITS |
|-------------------------------------------------------------------------------------------------------------|----------------------------------|-------------|------|------|------|------|------|------|-------|
| Maximum repetitive peak reverse voltage                                                                     | V <sub>RRM</sub>                 | 50          | 100  | 150  | 200  | 300  | 400  | 600  | V     |
| Maximum RMS voltage                                                                                         | V <sub>RMS</sub>                 | 35          | 70   | 105  | 140  | 210  | 280  | 420  | V     |
| Maximum DC blocking voltage                                                                                 | V <sub>DC</sub>                  | 50          | 100  | 150  | 200  | 300  | 400  | 600  | V     |
| Maximum average forward rectified current at T <sub>L</sub> =100°C                                          | I <sub>(AV)</sub>                | 1.0         |      |      |      |      |      |      | A     |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load                          | I <sub>FSM</sub>                 | 30.0        |      |      |      |      |      |      | A     |
| Maximum instantaneous forward voltage at 1.0A                                                               | V <sub>F</sub>                   | 0.95        |      |      |      | 1.25 |      | 1.7  | V     |
| Maximum DC reverse current    T <sub>A</sub> =25°C<br>at rated DC blocking voltage    T <sub>A</sub> =125°C | I <sub>R</sub>                   | 5.0<br>500  |      |      |      |      |      |      | u A   |
| Maxinum reverse recovery time(Note 1)                                                                       | T <sub>rr</sub>                  | 35          |      |      |      |      |      |      | ns    |
| Typical junction capacitance (Note2)                                                                        | C <sub>J</sub>                   | 18.0        |      |      |      |      |      |      | pF    |
| Typical thermal resistance                                                                                  | R <sub>qJA</sub>                 | 80.0        |      |      |      |      |      |      | °C/W  |
| Operating junction and storage temperature range                                                            | T <sub>J</sub> ,T <sub>STG</sub> | -55 to +150 |      |      |      |      |      |      | °C    |

**Note:** 1.Reverse recovery time test condition:  $I_F=0.5\text{A}$   $I_R=1.0\text{A}$   $I_{rr}=0.25\text{A}$   
2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.

### Ratings And Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

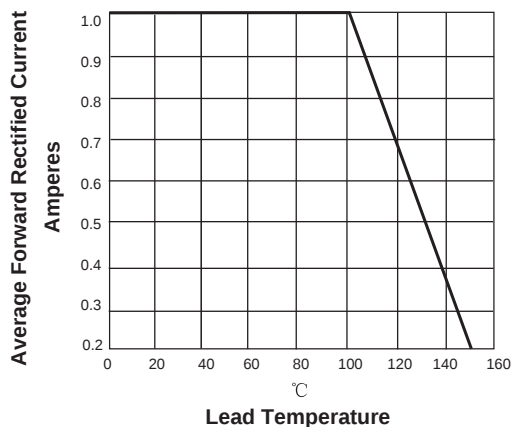


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

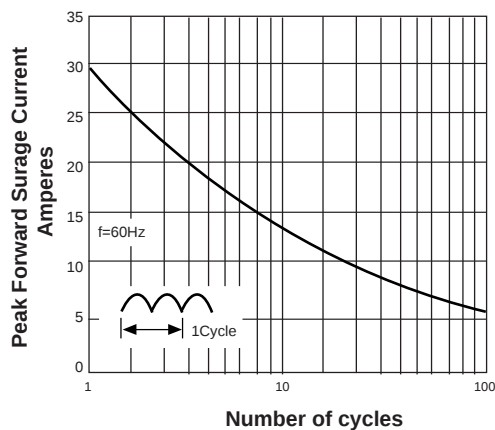


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

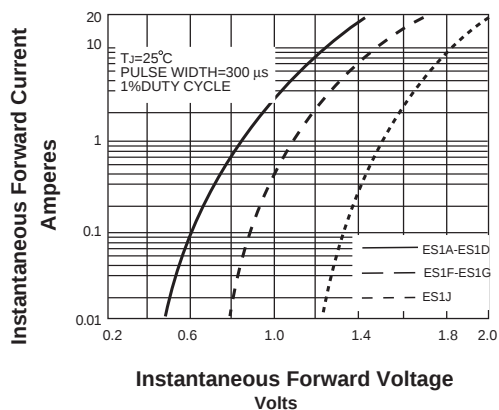
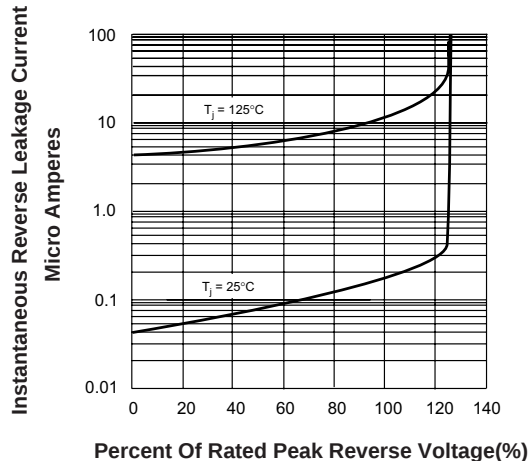
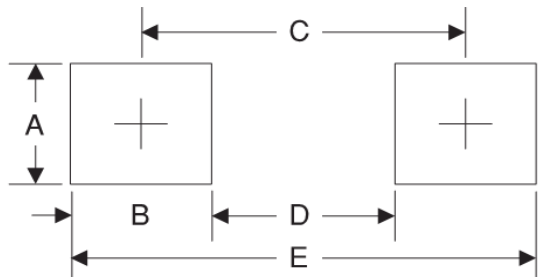


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS

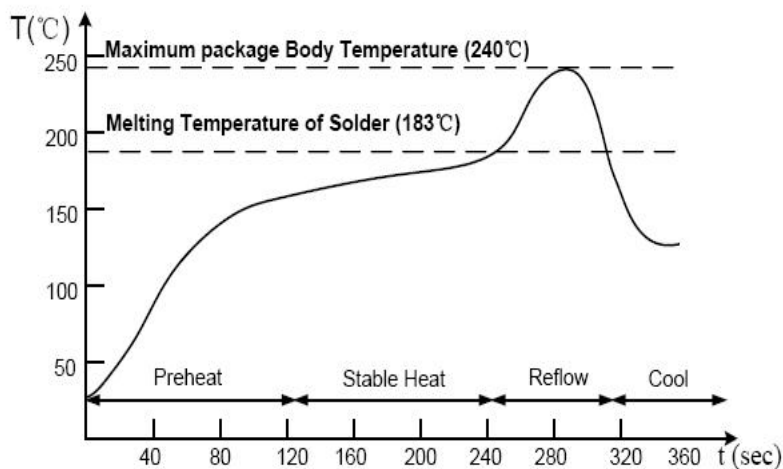


### Suggested Pad Layout



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A      | 1.68      | 0.066       |
| B      | 1.52      | 0.060       |
| C      | 3.90      | 0.154       |
| D      | 2.41      | 0.095       |
| E      | 5.45      | 0.215       |

### Suggested Soldering Temperature Profile

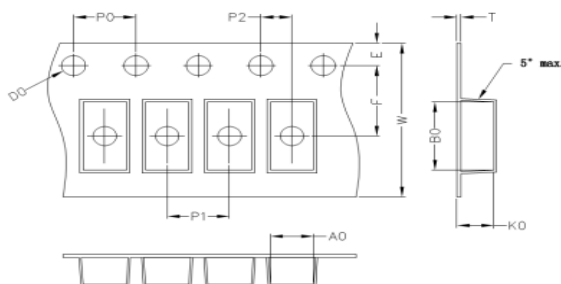


#### Note

- Recommended reflow methods: IR, vapor phase oven, hot air oven, wave solder.
- The device can be exposed to a maximum temperature of 265°C for 10 seconds.
- Devices can be cleaned using standard industry methods and solvents.
- If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

### Package Information

#### Carrier Dimension(mm)



| A0   | B0   | K0   | D0   | E    | F         |
|------|------|------|------|------|-----------|
| 2.80 | 5.30 | 2.36 | 1.55 | 1.75 | 5.50      |
| P0   | P1   | P2   | T    | W    | Tolerance |
| 4.0  | 4.0  | 2.0  | 0.25 | 12   | 0.1       |

#### Package Specifications

| Package | Reel Size | Reel DIA. (mm) | Q'TY/Reel (Kpcs) | Box Size (mm) | QTY/Box (Kpcs) | Carton Size (mm) | Q'TY/Carton (Kpcs) |
|---------|-----------|----------------|------------------|---------------|----------------|------------------|--------------------|
| SMA     | 11'       | 278            | 5                | 285           | 10             | 355*310*310      | 80                 |
|         | 13'       | 330            | 7.5              | 340           | 15             | 360*360*360      | 120                |