

## 1.0Amp Standard Surface Mounted Rectifiers

## 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

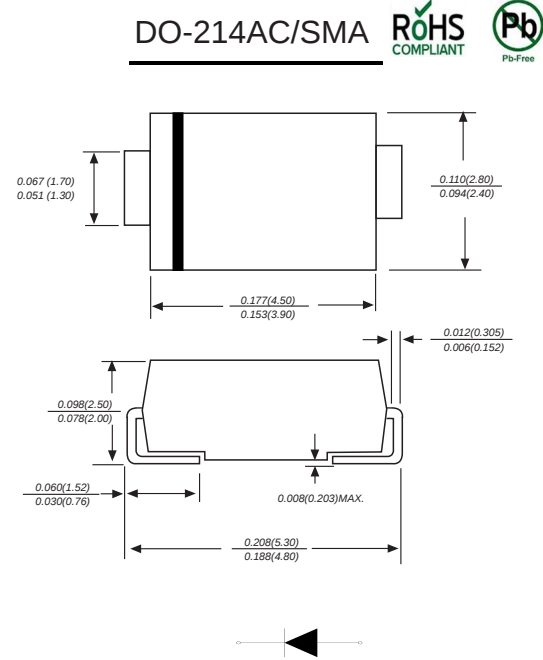
Case : Molded plastic body

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



## 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        | GS1A        | GS1B | GS1D | GS1G | GS1J | GS1K | GS1M | UNITS              |
|-----------------------------------------------------------------------------------------------------------|----------------|-------------|------|------|------|------|------|------|--------------------|
| Maximum repetitive peak reverse voltage                                                                   | $V_{RRM}$      | 50          | 100  | 200  | 400  | 600  | 800  | 1000 | V                  |
| Maximum RMS voltage                                                                                       | $V_{RMS}$      | 35          | 70   | 140  | 280  | 420  | 560  | 700  | V                  |
| Maximum DC blocking voltage                                                                               | $V_{DC}$       | 50          | 100  | 200  | 400  | 600  | 800  | 1000 | V                  |
| Maximum average forward rectified current at $T_L=100^\circ\text{C}$                                      | $I_{(AV)}$     | 1.0         |      |      |      |      |      |      | A                  |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load                        | $I_{FSM}$      | 30.0        |      |      |      |      |      |      | A                  |
| Maximum instantaneous forward voltage at 1.0A                                                             | $V_F$          | 1.10        |      |      |      |      |      |      | V                  |
| Maximum DC reverse current $T_A=25^\circ\text{C}$<br>at rated DC blocking voltage $T_A=125^\circ\text{C}$ | $I_R$          | 5.0<br>500  |      |      |      |      |      |      | $\mu\text{A}$      |
| Typical junction capacitance (Note1)                                                                      | $C_J$          | 18.0        |      |      |      |      |      |      | pF                 |
| Typical thermal resistance                                                                                | $R_{QA}$       | 80.0        |      |      |      |      |      |      | $^\circ\text{C/W}$ |
| Operating junction and storage temperature range                                                          | $T_J, T_{STG}$ | -55 to +150 |      |      |      |      |      |      | $^\circ\text{C}$   |

Note: 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

## Ratings And Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

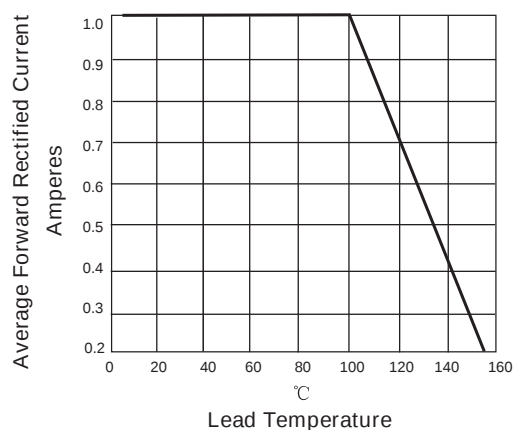


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

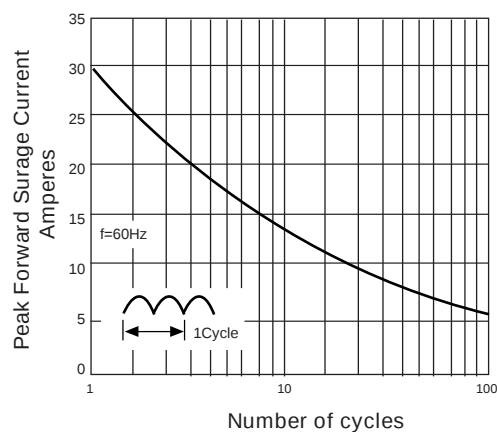


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

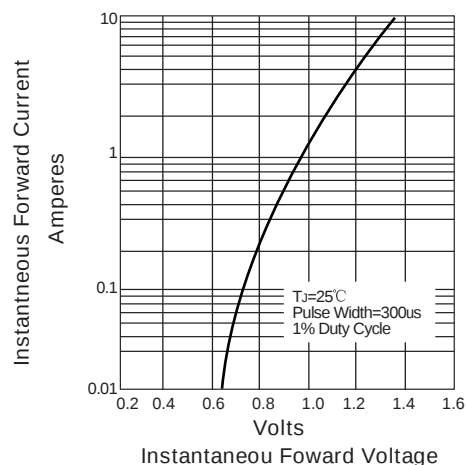
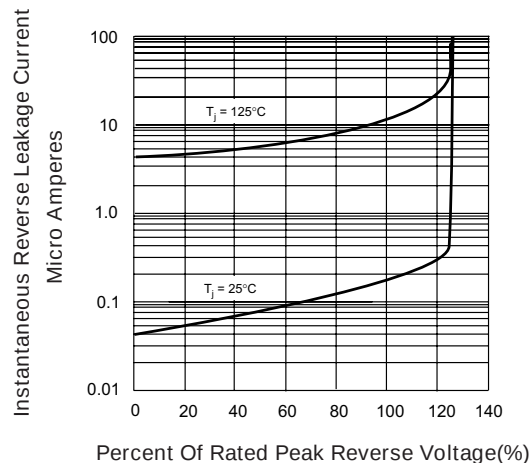
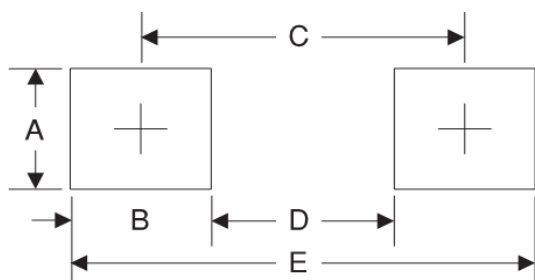


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS

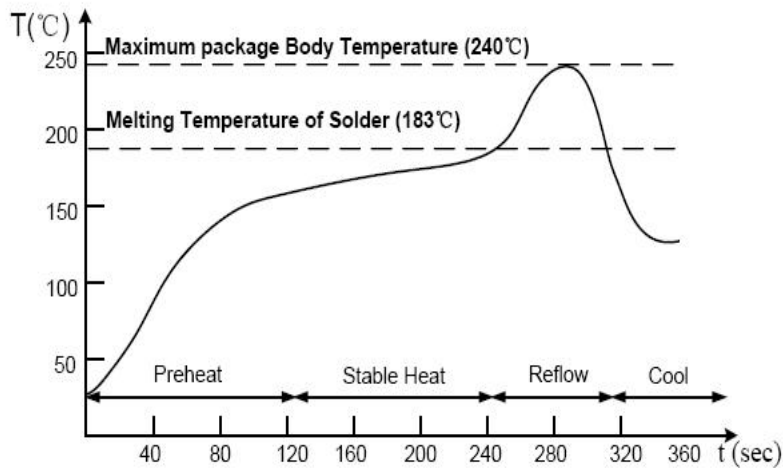


## Suggested Pad Layout



| 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

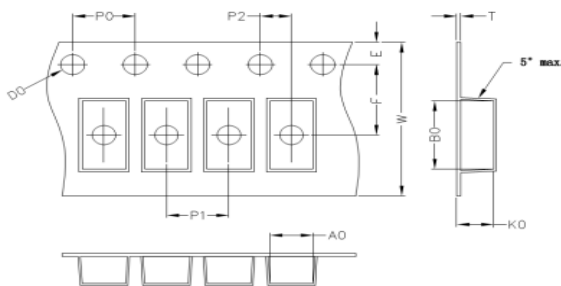


#### Note

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