



# SS12 THRU SS1200

Reverse Voltage - 20 to 200 Volts Forward Current - 1.0 Ampere

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

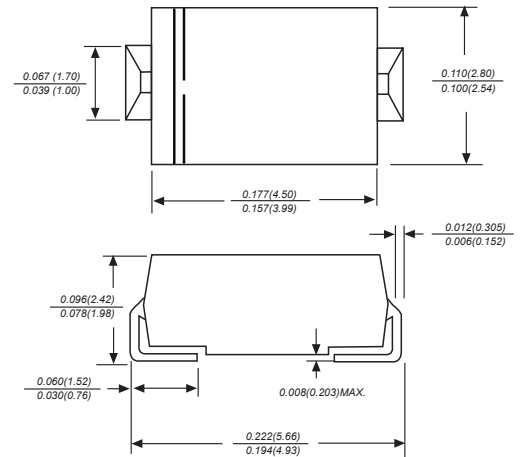
### Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed:  
250 °C/10 seconds at terminals

### Mechanical Data

Case : JEDEC DO-214AC/SMA molded plastic body  
Terminals : Solderable per MIL-STD-750, Method 2026  
Polarity : Color band denotes cathode end Mounting  
Position : Any  
Weight : 0.002 ounce, 0.07 grams

DO-214AC/SMA



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          | SS12        | SS13        | SS14        | SS15        | SS16        | SS18        | SS110        | SS1150        | SS1200        | UNITS |
|--------------------------------------------------------------------------------------------------------|------------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|---------------|---------------|-------|
| Marking Code                                                                                           |                  | MDD<br>SS12 | MDD<br>SS13 | MDD<br>SS14 | MDD<br>SS15 | MDD<br>SS16 | MDD<br>SS18 | MDD<br>SS110 | MDD<br>SS1150 | MDD<br>SS1200 |       |
| Maximum repetitive peak reverse voltage                                                                | V <sub>RRM</sub> | 20          | 30          | 40          | 50          | 60          | 80          | 100          | 150           | 200           | V     |
| Maximum RMS voltage                                                                                    | V <sub>RMS</sub> | 14          | 21          | 28          | 35          | 42          | 56          | 70           | 105           | 140           | V     |
| Maximum DC blocking voltage                                                                            | V <sub>DC</sub>  | 20          | 30          | 40          | 50          | 60          | 80          | 100          | 150           | 200           | V     |
| Maximum average forward rectified current at TL(see fig.1)                                             | I <sub>AV</sub>  | 1.0         |             |             |             |             |             |              |               |               | A     |
| Peak forward surge current<br>8.3ms single half sine-wave<br>superimposed on rated load (JEDEC Method) | I <sub>FSM</sub> | 30          |             |             |             |             |             |              |               |               | A     |
| Maximum instantaneous forward voltage at 1.0A                                                          | V <sub>F</sub>   | 0.45        | 0.55        |             | 0.70        |             |             | 0.85         |               | 0.9           | V     |
| Maximum DC reverse current<br>at rated DC blocking voltage                                             | I <sub>R</sub>   | 0.5         |             |             |             |             | 0.2         |              |               |               | mA    |
| TA=25℃<br>TA=125℃                                                                                      |                  | 10.0        |             |             |             |             | 5.0         |              | 2.0           |               |       |
| Typical junction capacitance (NOTE 1)                                                                  | C <sub>J</sub>   | 110         |             |             | 80          |             |             |              |               |               | pF    |
| Typical thermal resistance (NOTE 2)                                                                    | RθJA             | 88.0        |             |             |             |             |             |              |               |               | ℃/W   |
| Operating junction temperature range                                                                   | T <sub>J</sub>   | -50 to +125 |             |             |             |             | -50 to +150 |              |               |               | ℃     |
| Storage temperature range                                                                              | T <sub>STG</sub> | -50 to +150 |             |             |             |             |             |              |               |               | ℃     |

Note: 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
2. P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas



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## Typical Characteristics

Fig.1 Forward Current Derating Curve

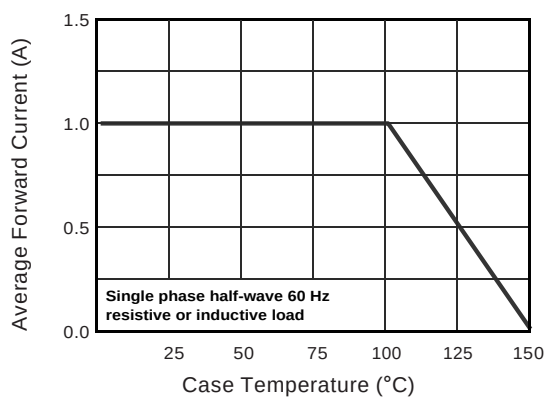


Fig.2 Typical Reverse Characteristics

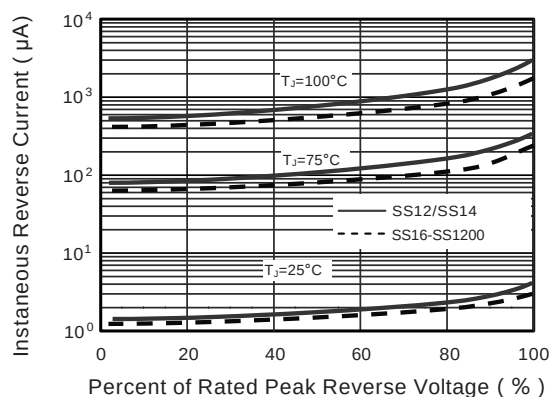


Fig.3 Typical Forward Characteristic

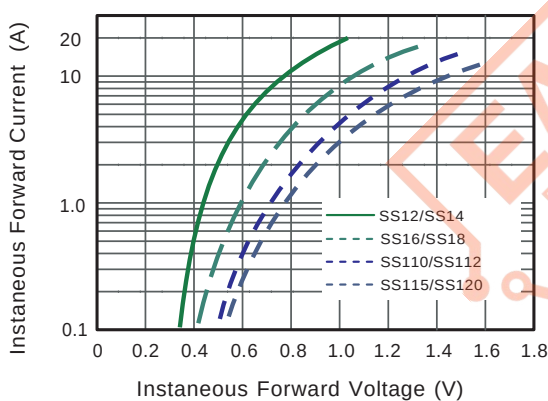


Fig.4 Typical Junction Capacitance

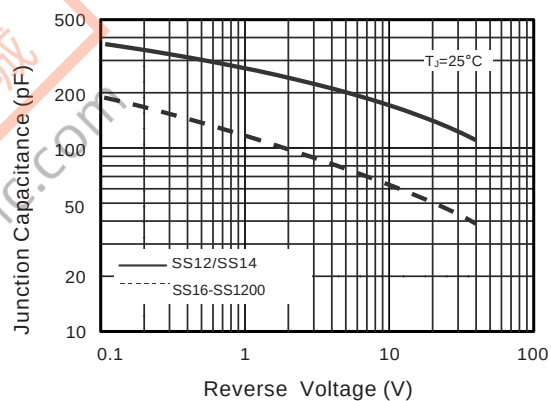


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

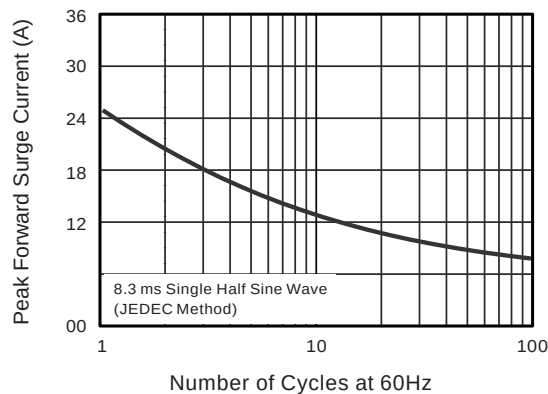
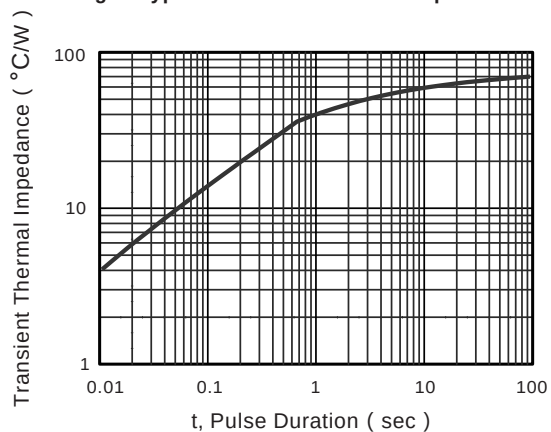


Fig.6 Typical Transient Thermal Impedance



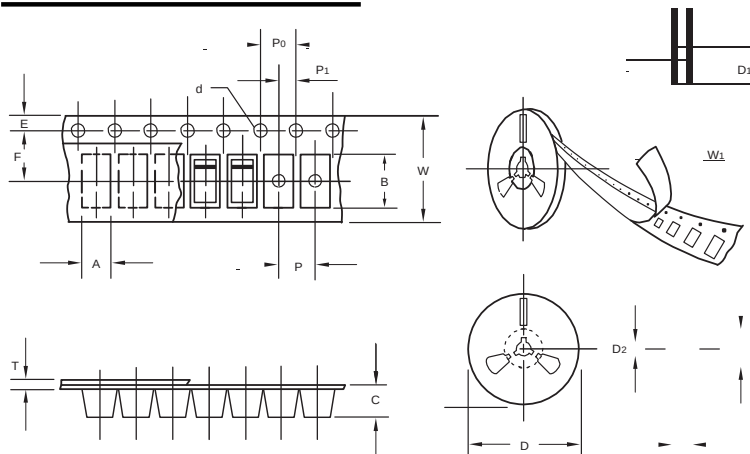
The curve above is for reference only.



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## Packing information



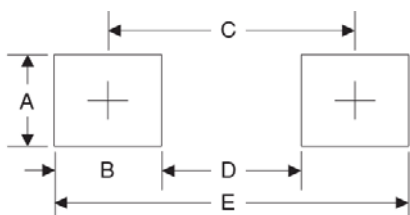
| unit:mm                   |        |           |        |
|---------------------------|--------|-----------|--------|
| Item                      | Symbol | Tolerance | SMA    |
| Carrier width             | A      | 0.1       | 2.80   |
| Carrier length            | B      | 0.1       | 5.33   |
| Carrier depth             | C      | 0.1       | 2.36   |
| Sprocket hole             | d      | 0.05      | 1.50   |
| 13" Reel outside diameter | D      | 2.0       | 330.00 |
| 13" Reel inner diameter   | D1     | min       | 50.00  |
| 7" Reel outside diameter  | D      | 2.0       | 178.00 |
| 7" Reel inner diameter    | D1     | min       | 62.00  |
| Feed hole diameter        | D2     | 0.5       | 13.00  |
| Sprocket hole position    | E      | 0.1       | 1.75   |
| Punch hole position       | F      | 0.1       | 5.50   |
| Punch hole pitch          | P      | 0.1       | 4.00   |
| Sprocket hole pitch       | P0     | 0.1       | 4.00   |
| Embossment center         | P1     | 0.1       | 2.00   |
| Overall tape thickness    | T      | 0.1       | 0.28   |
| Tape width                | W      | 0.3       | 12.00  |
| Reel width                | W1     | 1.0       | 18.00  |

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

## Reel packing

| PACKAGE | REEL SIZE | REEL (pcs) | COMPONENT SPACING (m/m) | BOX (pcs) | INNER BOX (m/m) | REEL DIA, (m/m) | CARTON SIZE (m/m) | CARTON (pcs) | APPROX. GROSS WEIGHT (kg) |
|---------|-----------|------------|-------------------------|-----------|-----------------|-----------------|-------------------|--------------|---------------------------|
| SMA     | 7"        | 2,000      | 4.0                     | 4,000     | 183*155*183     | 178             | 382*356*392       | 80,000       | 16.0                      |
| SMA     | 11"       | 5,000      | 4.0                     | 10,000    | 290*290*38      | 330             | 310*310*360       | 80,000       | 11.0                      |
| SMA     | 13"       | 7,500      | 4.0                     | 15,000    | 335*335*38      | 330             | 350*330*360       | 120,000      | 14.5                      |

## 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       |

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