



RoHS  
COMPLIANCE



## Features

- ◇ UL Recognized File # E-326243
- ◇ Dual rectifier construction, positive center-tap
- ◇ Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- ◇ Glass passivated chip junctions
- ◇ Superfast recovery time, high voltage
- ◇ Low forward voltage, high current capability
- ◇ Low thermal resistance
- ◇ Low power loss, high efficiency
- ◇ High temperature soldering guaranteed:  
260°C / 10 seconds, 0.16" (4.06mm) lead lengths  
at 5 lbs., (2.3kg) tension
- ◇ Green compound with suffix "G" on packing  
code & prefix "G" on datecode.

## Mechanical Data

- ◇ Cases: JEDEC TO-3P/TO-247AD molded plastic
- ◇ Terminals: Pure tin plated, lead free, solderable per MIL-STD-750, Method 2026
- ◇ Polarity: As marked
- ◇ Mounting position: Any
- ◇ Weight: 5.6 grams

## Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| Type Number                                                                                               | Symbol             | SF<br>2001PT  | SF<br>2002PT | SF<br>2003PT | SF<br>2004PT | SF<br>2005PT | SF<br>2006PT | SF<br>2007PT | SF<br>2008PT | Units    |
|-----------------------------------------------------------------------------------------------------------|--------------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------|
| Maximum Recurrent Peak Reverse Voltage                                                                    | V <sub>RRM</sub>   | 50            | 100          | 150          | 200          | 300          | 400          | 500          | 600          | V        |
| Maximum RMS Voltage                                                                                       | V <sub>RMS</sub>   | 35            | 70           | 105          | 140          | 210          | 280          | 350          | 420          | V        |
| Maximum DC Blocking Voltage                                                                               | V <sub>DC</sub>    | 50            | 100          | 150          | 200          | 300          | 400          | 500          | 600          | V        |
| Maximum Average Forward Rectified Current<br>@T <sub>C</sub> =100℃                                        | I <sub>F(AV)</sub> | 20            |              |              |              |              |              |              |              | A        |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)        | I <sub>FSM</sub>   | 180           |              |              |              |              |              |              |              | A        |
| Maximum Instantaneous Forward Voltage @ 10A<br>(Note 1) @ 20A                                             | V <sub>F</sub>     | 0.975<br>1.10 |              |              |              | 1.30<br>1.50 |              | 1.70<br>1.90 |              | V        |
| Maximum DC Reverse Current at @ T <sub>A</sub> =25 ℃<br>Rated DC Blocking Voltage @ T <sub>A</sub> =125 ℃ | I <sub>R</sub>     | 10<br>400     |              |              |              |              |              |              |              | uA<br>uA |
| Maximum Reverse Recovery Time (Note 2)                                                                    | T <sub>rr</sub>    | 35            |              |              |              |              |              |              |              | nS       |
| Typical Junction Capacitance (Note 3)                                                                     | C <sub>j</sub>     | 175           |              |              |              |              |              |              |              | pF       |
| Typical Thermal Resistance (Note 4)                                                                       | R <sub>θJC</sub>   | 2.5           |              |              |              |              |              |              |              | ℃/W      |
| Operating Temperature Range                                                                               | T <sub>J</sub>     | - 55 to + 150 |              |              |              |              |              |              |              | ℃        |
| Storage Temperature Range                                                                                 | T <sub>STG</sub>   | - 55 to + 150 |              |              |              |              |              |              |              | ℃        |

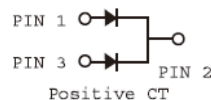
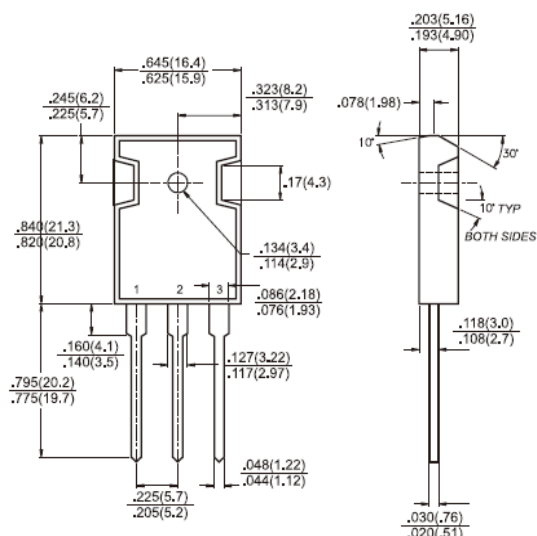
Note 1: Pulse Test with PW=300 usec, 1% Duty Cycle

Note 2: Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ , Recover to 0.25A.

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

Note 4: Mounted on Heatsink size of 3" x 5" x 0.25" Al-Plate.

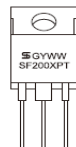
## SF2001PT - SF2008PT 20.0AMPS. Glass Passivated Super Fast Rectifiers TO-3P/TO-247AD



## Dimensions in inches and (millimeters)

### Marking Diagram

SF200XPT = Specific Device Code  
G = Green Compound  
Y = Year  
WW = Work Week



## RATINGS AND CHARACTERISTIC CURVES (SF2001PT THRU SF2008PT)

FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE

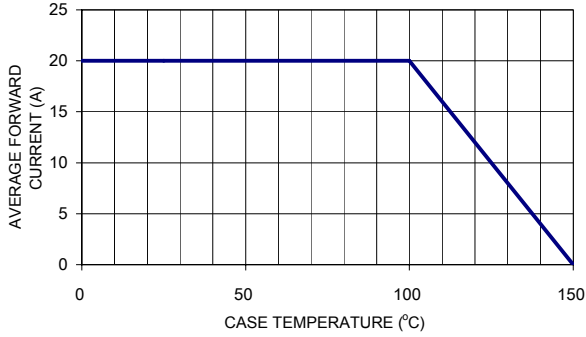


FIG. 2- TYPICAL REVERSE CHARACTERISTICS PER LEG

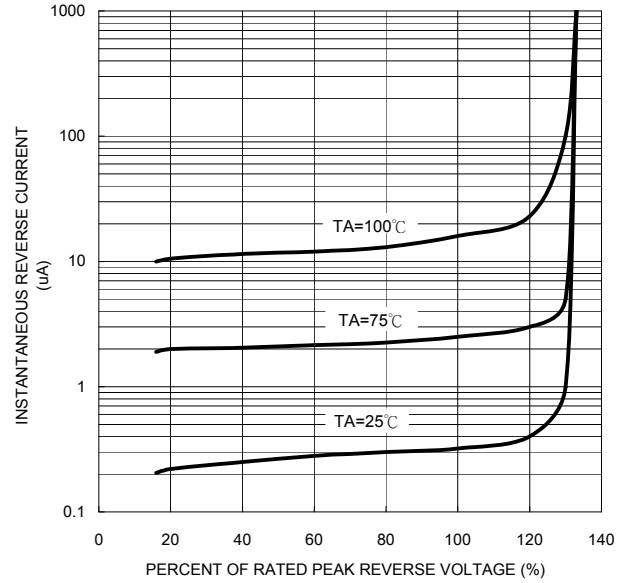


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

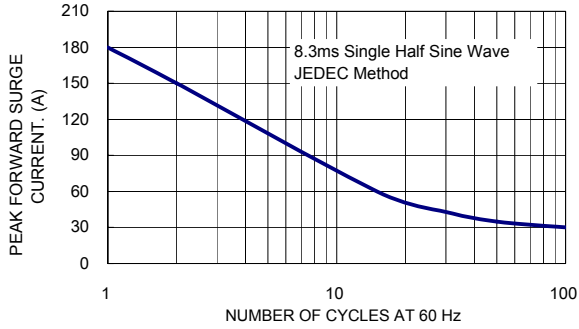


FIG. 5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

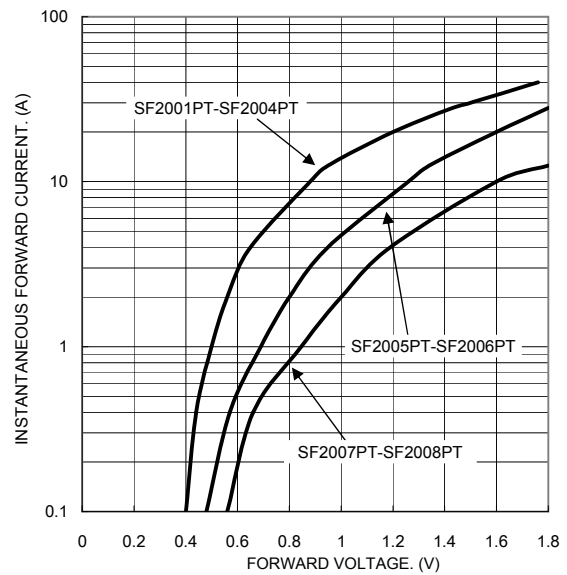


FIG. 4- TYPICAL JUNCTION CAPACITANCE PER LEG

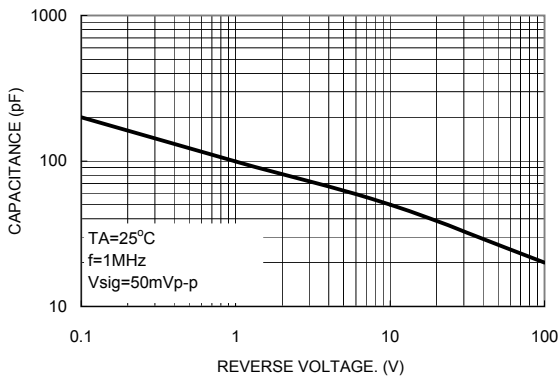


FIG. 6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

