



# SF3001PT - SF3006PT

## 30.0 AMPS. Glass Passivated Super Fast Rectifiers

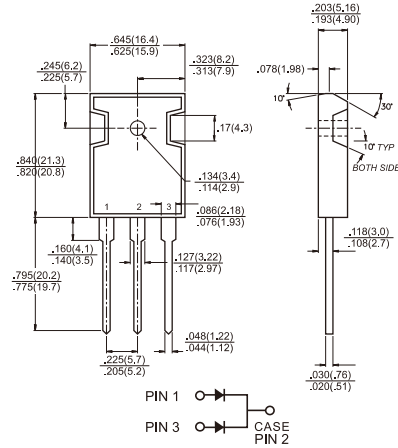
### TO-3P/TO-247AD

### Features

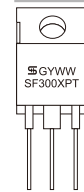
- ◇ UL Recognized File # E-326243
- ◇ Dual rectifier construction, positive center-tap
- ◇ Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- ◇ Glass passivated chip junctions
- ◇ Superfast recovery time, high voltage
- ◇ Low forward voltage, high current capability
- ◇ 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) tesion
- ◇ 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



Dimensions in inches and (millimeters)



### Marking Diagram

- SF300XPT = Specific Device Code
- G = Green Compound
- Y = Year
- WW = Work Week

### 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 3001 PT  | SF 3002 PT | SF 3003 PT | SF 3004 PT | SF 3005 PT | SF 3006 PT | Units |
|---|--------------------|-------------|------------|------------|------------|------------|------------|-------|
| Maximum Recurrent Peak Reverse Voltage  | V <sub>RRM</sub>   | 50          | 100        | 150        | 200        | 300        | 400        | V     |
| Maximum RMS Voltage   | V <sub>RMS</sub>   | 35          | 70         | 105        | 140        | 210        | 280        | V     |
| Maximum DC Blocking Voltage   | V <sub>DC</sub>    | 50          | 100        | 150        | 200        | 300        | 400        | V     |
| Maximum Average Forward Rectified Current at T <sub>c</sub> =100°C                                  | I <sub>F(AV)</sub> | 30          |            |            |            |            |            | A     |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method ) | I <sub>FSM</sub>   | 300         |            |            |            |            |            | A     |
| Maximum Instantaneous Forward Voltage @15.0A  | V <sub>F</sub>     | 0.95        |            |            |            | 1.3        |            | V     |
| Maximum DC Reverse Current at @ T <sub>A</sub> =25°C  | I <sub>R</sub>     | 10.0        |            |            |            |            |            | uA    |
| Rated DC Blocking Voltage (Note 1) @T <sub>A</sub> =125 °C  |                    | 500         |            |            |            |            |            | uA    |
| Maximum Reverse Recovery Time(Note2) T <sub>J</sub> =25 °C  | T <sub>rr</sub>    | 35          |            |            |            |            |            | nS    |
| Typical Junction Capacitance (Note 4)   | C <sub>j</sub>     | 175.0       |            |            |            |            |            | pF    |
| Typical Thermal Resistance (Note 3)   | R <sub>θJC</sub>   | 1.0         |            |            |            |            |            | °C/W  |
| Operating Junction Temperature Range  | T <sub>J</sub>     | -55 to +150 |            |            |            |            |            | °C    |
| Storage Temperature Range   | T <sub>STG</sub>   | -55 to +150 |            |            |            |            |            | °C    |

- Notes:
1. Pulse Test with PW=300 usec, 1% Duty Cycle
  2. Reverse Recovery Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, Recover to 0.25A.
  3. Mounted on 4" x 6" x 0.25" Al-Plate.
  4. Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

## RATINGS AND CHARACTERISTIC CURVES (SF3001PT THRU SF3006PT)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

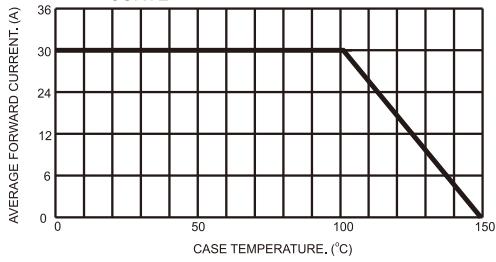


FIG.2- TYPICAL REVERSE CHARACTERISTICS PER LEG

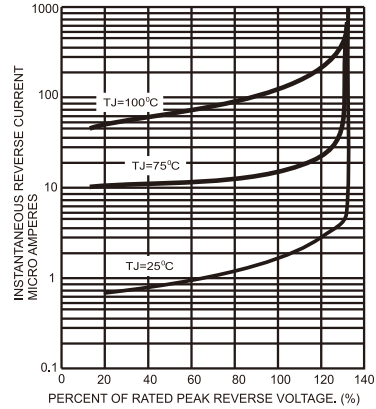


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

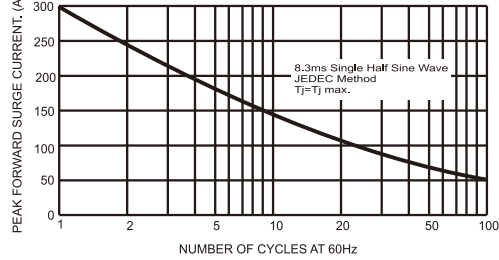


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

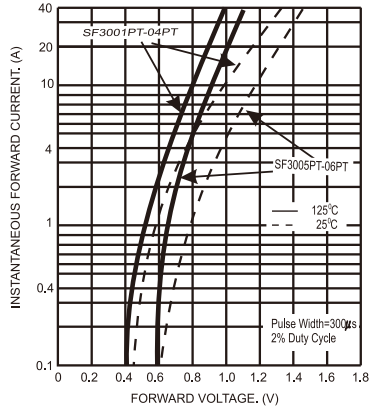


FIG.4- TYPICAL JUNCTION CAPACITANCE PER LEG

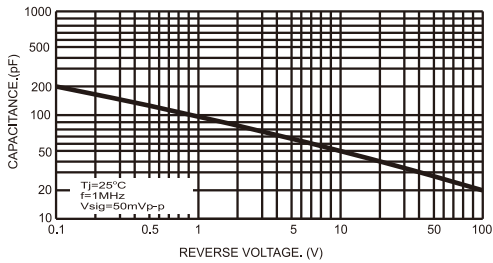
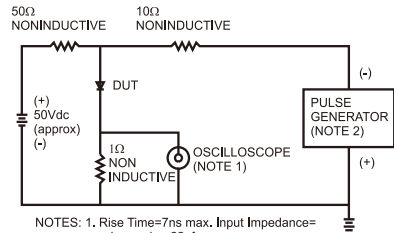


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES: 1. Rise Time=7ns max. Input Impedance= 1 megohm 22pf  
2. Rise Time=10ns max. Source Impedance= 50 ohms

