

## 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
- ✧ 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

## Ordering Information (example)

| Part No. | Package | Packing   | Packing code | Packing code (Green) |
|----------|---------|-----------|--------------|----------------------|
| SF2001PT | TO-3P   | 30 / TUBE | C0           | C0G                  |

## Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

| Parameter                                                                                          | 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                                                             | $V_{RRM}$       | 50            | 100          | 150          | 200          | 300          | 400          | 500          | 600          | V                    |
| Maximum RMS Voltage                                                                                | $V_{RMS}$       | 35            | 70           | 105          | 140          | 210          | 280          | 350          | 420          | V                    |
| Maximum DC Blocking Voltage                                                                        | $V_{DC}$        | 50            | 100          | 150          | 200          | 300          | 400          | 500          | 600          | V                    |
| Maximum Average Forward Rectified Current                                                          | $I_{F(AV)}$     | 20            |              |              |              |              |              |              |              | A                    |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | $I_{FSM}$       | 180           |              |              |              |              |              |              |              | A                    |
| Maximum Instantaneous Forward Voltage @ 10A<br>(Note 1) @ 20A                                      | $V_F$           | 0.975<br>1.10 |              |              |              | 1.30<br>1.50 |              | 1.70<br>1.90 |              | V                    |
| Maximum DC Reverse Current at @ $T_A=25\text{ }^{\circ}\text{C}$                                   | $I_R$           | 10            |              |              |              |              |              |              |              | uA                   |
| Rated DC Blocking Voltage @ $T_A=125\text{ }^{\circ}\text{C}$                                      |                 | 400           |              |              |              |              |              |              |              | uA                   |
| Maximum Reverse Recovery Time (Note 2)                                                             | $T_{rr}$        | 35            |              |              |              |              |              |              |              | nS                   |
| Typical Junction Capacitance (Note 3)                                                              | $C_j$           | 175           |              |              |              |              |              |              |              | pF                   |
| Typical Thermal Resistance                                                                         | $R_{\theta JC}$ | 2.5           |              |              |              |              |              |              |              | $^{\circ}\text{C/W}$ |
| Operating Temperature Range                                                                        | $T_J$           | - 55 to + 150 |              |              |              |              |              |              |              | $^{\circ}\text{C}$   |
| Storage Temperature Range                                                                          | $T_{STG}$       | - 55 to + 150 |              |              |              |              |              |              |              | $^{\circ}\text{C}$   |

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.

## RATINGS AND CHARACTERISTIC CURVES (SF2001PT THRU SF2008PT)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

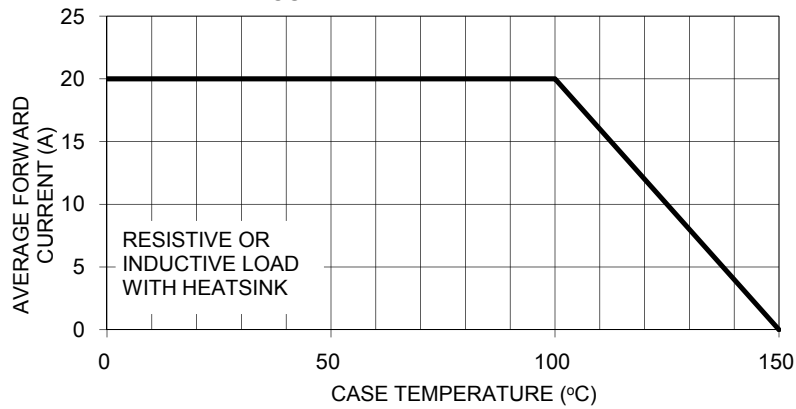


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

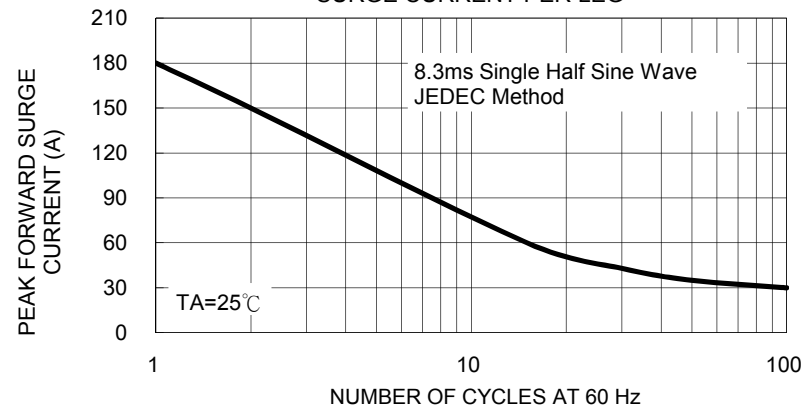


FIG. 4- TYPICAL JUNCTION CAPACITANCE PER LEG

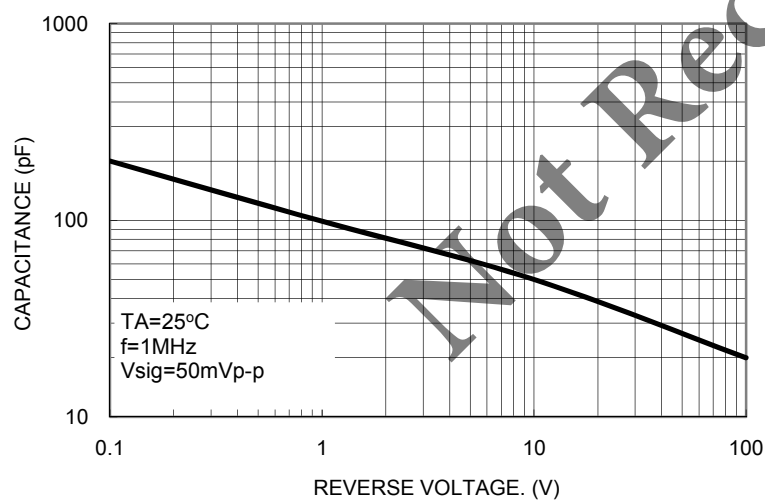


FIG. 2- TYPICAL REVERSE CHARACTERISTICS PER LEG

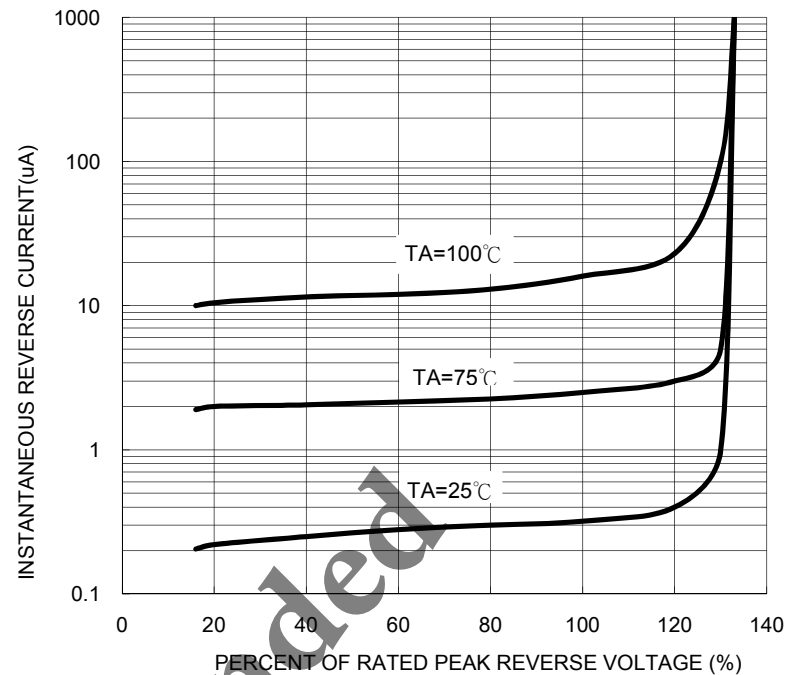


FIG. 5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

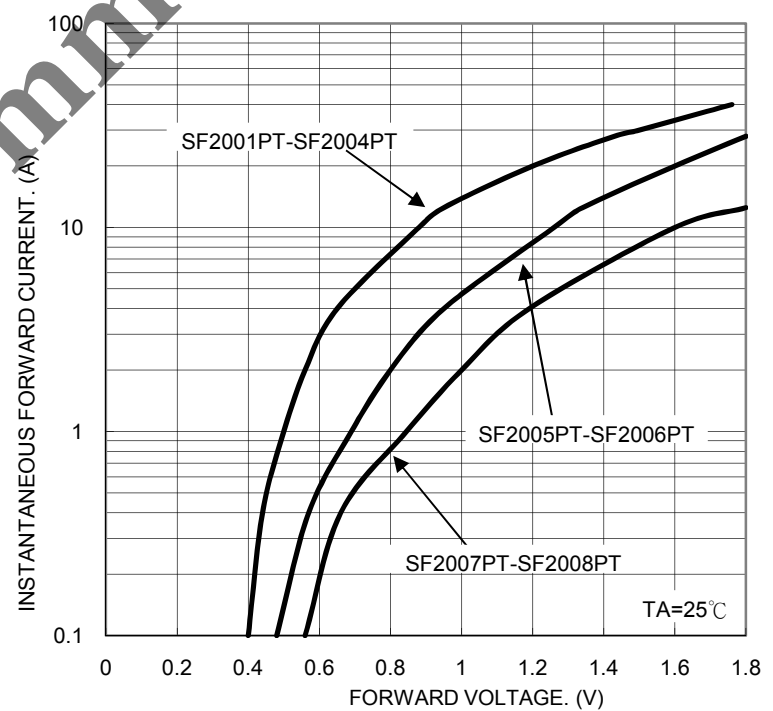
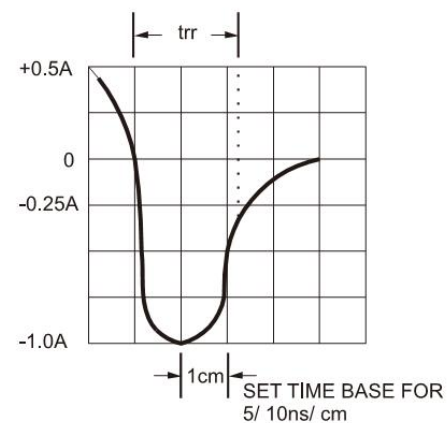
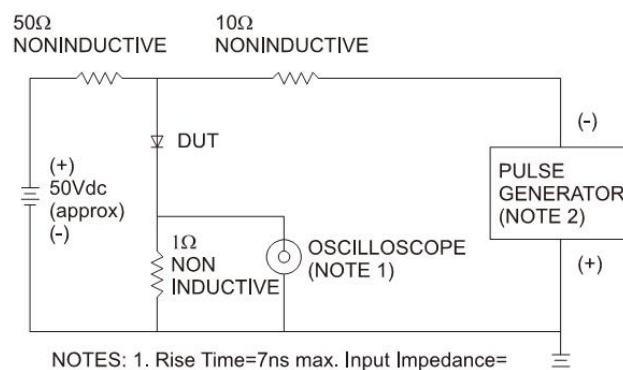


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

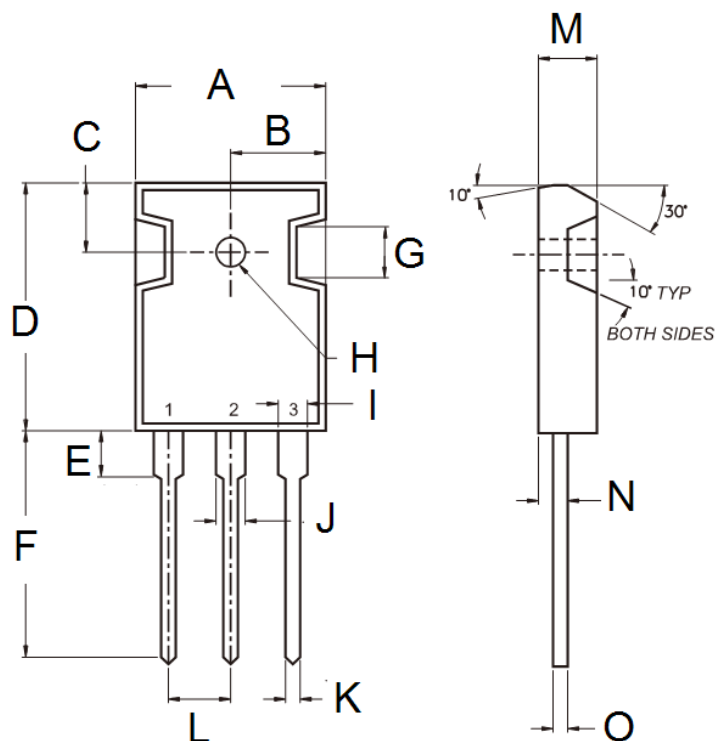


## Ordering information

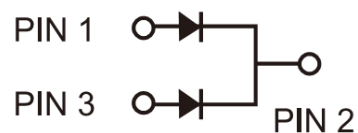
| Part No. | Package | BULK Packing | Packing code | Packing code (Green) |
|----------|---------|--------------|--------------|----------------------|
| SF200xPT | TO-3P   | 30 / TUBE    | C0           | C0G                  |

Note: "x" is Device Code from "1" thru "8".

## Dimensions



| DIM. | Unit(mm) |       | Unit(inch) |       |
|------|----------|-------|------------|-------|
|      | Min      | Max   | Min        | Max   |
| A    | 15.90    | 16.40 | 0.626      | 0.646 |
| B    | 7.90     | 8.20  | 0.311      | 0.323 |
| C    | 5.70     | 6.20  | 0.224      | 0.244 |
| D    | 20.80    | 21.30 | 0.819      | 0.839 |
| E    | 3.50     | 4.10  | 0.138      | 0.161 |
| F    | 19.70    | 20.20 | 0.776      | 0.795 |
| G    | -        | 4.30  | -          | 0.169 |
| H    | 2.90     | 3.40  | 0.114      | 0.134 |
| I    | 1.93     | 2.18  | 0.076      | 0.086 |
| J    | 2.97     | 3.22  | 0.117      | 0.127 |
| K    | 1.12     | 1.22  | 0.044      | 0.048 |
| L    | 5.20     | 5.70  | 0.205      | 0.224 |
| M    | 4.90     | 5.16  | 0.193      | 0.203 |
| N    | 2.70     | 3.00  | 0.106      | 0.118 |
| O    | 0.51     | 0.76  | 0.020      | 0.030 |



## Marking Diagram



P/N = Specific Device Code  
G = Green Compound  
YWW = Date Code  
F = Factory Code

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