

# SF2010C-SF2060C

Super Fast Rectifiers

**VOLTAGE RANGE: 100 --- 600 V**

**CURRENT: 20 A**



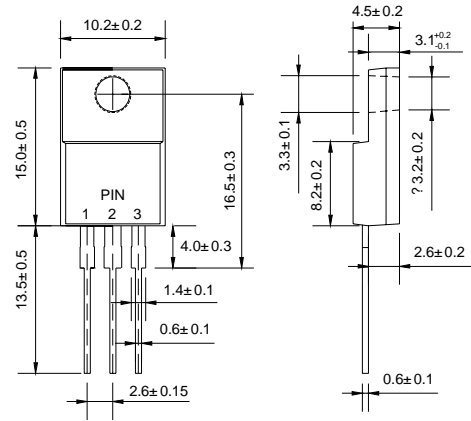
**TO-220AB**

## Features

- ◇ Low cost
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

## Mechanical Data

- ◇ Case: JEDEC TO-220AB, molded plastic
- ◇ Polarity: As marked
- ◇ Mounting position: Any



Dimensions in millimeters

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

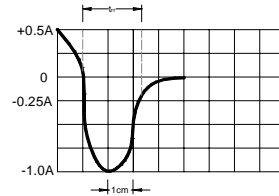
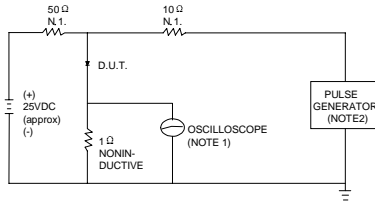
Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

|   |             | SF 2010C         | SF 2020C | SF 2030C | SF 2040C | SF 2050C | SF 2060C | UNITS            |
|---|-------------|------------------|----------|----------|----------|----------|----------|------------------|
| Maximum recurrent peak reverse voltage  | $V_{RRM}$   | 100              | 200      | 300      | 400      | 500      | 600      | V                |
| Maximum RMS voltage   | $V_{RMS}$   | 70               | 140      | 210      | 280      | 350      | 420      | V                |
| Maximum DC blocking voltage   | $V_{DC}$    | 100              | 200      | 300      | 400      | 500      | 600      | V                |
| Maximum average forward rectified current<br>@ $T_C=100^\circ\text{C}$  | $I_{F(AV)}$ | 20               |          |          |          |          |          | A                |
| Peak forward surge current<br>8.3ms single half-sine-wave<br>superimposed on rated load @ $T_J=125^\circ\text{C}$ | $I_{FSM}$   | 150              |          |          |          |          |          | A                |
| Maximum instantaneous forward voltage<br>@ 10 A   | $V_F$       | 0.98             |          | 1.3      |          | 1.7      |          | V                |
| Maximum reverse current @ $T_A=25^\circ\text{C}$<br>at rated DC blocking voltage @ $T_A=150^\circ\text{C}$        | $I_R$       | 5.0              |          | 10       |          | 500      |          | $\mu\text{A}$    |
| Maximum reverse recovery time (Note1)   | $t_{rr}$    | 35               |          |          |          |          |          | ns               |
| Operating junction temperature range  | $T_J$       | - 55 ----- + 150 |          |          |          |          |          | $^\circ\text{C}$ |
| Storage temperature range   | $T_{STG}$   | - 55 ----- + 150 |          |          |          |          |          | $^\circ\text{C}$ |

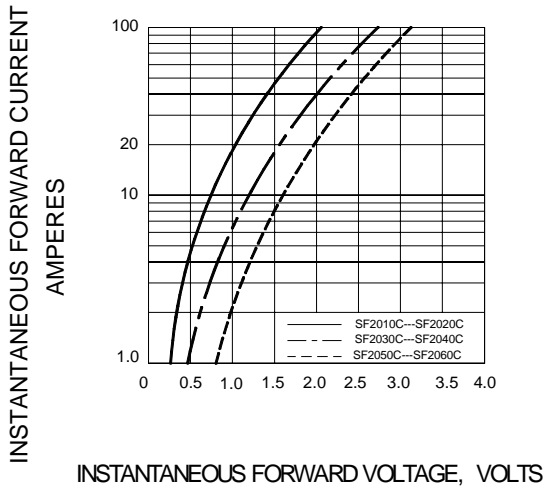
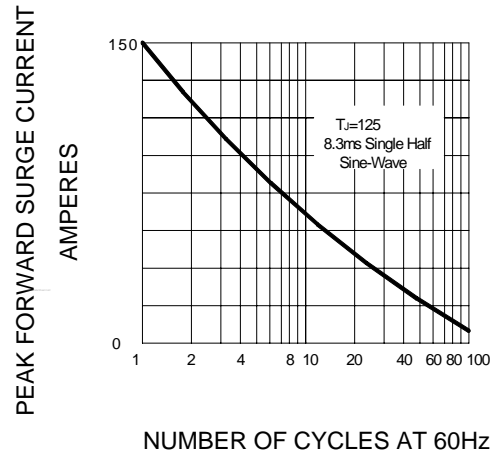
NOTE: 1. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$ .

## Ratings AND Characteristic Curves

**FIG.1 – TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**


SET TIME BASE FOR 15 ns/cm

NOTES:1.RISE TIME = 7ns MAX.INPUT IMPEDANCE =1MΩ. 22pF.  
 2.RISE TIME =10ns MAX.SOURCE IMPEDANCE=50 Ω.

**FIG.2 – TYPICAL FORWARD CHARACTERISTIC**

**FIG.3 – PEAK FORWARD SURGE CURRENT**

**FIG.4-FORWARD DERATING CURVE**
