



**SF20-005G  
THRU  
SF20-06G**

**2A GLASS PASSIVATED SUPER FAST RECOVERY RECTIFIER**

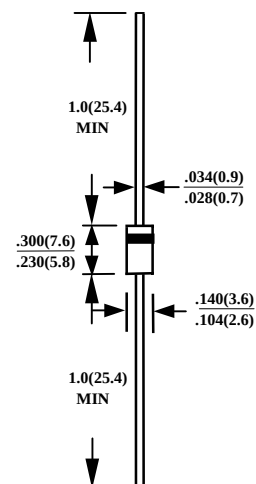
**FEATURES**

- HIGH RELIABILITY
- LOW FORWARD VOLTAGE
- SUPER FAST SWITCHING
- GOOD FOR 200KHZ POWER SUPPLIER
- HIGH SURGE CAPABILITY
- HIGH CURRENT CAPABILITY
- GLASS PASSIVATED CHIP JUNCTION

**MECHANICAL DATA**

- CASE : MOLDED PLASTIC
- EPOXY : UL 94V-0 MOLDING COMPOUND
- LEADS : MIL-STD-202E METHOD 208C GUARANTEED
- MOUNTING POSITION : ANY
- WEIGHT : 0.4 GRAMS

CASE-DO15



DIMENSIONS IN INCHES AND (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 CURRENT BY 20%

| RATINGS                                                                               | SYMBOL           | SF20-005G     | SF20-01G | SF20-015G | SF20-02G | SF20-03G | SF20-04G | SF20-05G | SF20-06G | 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      | 1500      | 200      | 300      | 400      | 500      | 600      | V     |
| MAXIMUM AVERAGE FORWARD RECTIFIED CURRENT<br>.375" (9.5mm) LEAD LENGTH AT TA=55°C     | I <sub>O</sub>   | 2.0           |          |           |          |          |          |          |          | A     |
| PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF<br>SINE-WAVE SUPERIMPOSED ON RATED LOAD | I <sub>FSM</sub> | 75            |          |           |          |          |          |          |          | A     |
| TYPICAL JUNCTION CAPACITANCE (NOTE 1)                                                 | C <sub>J</sub>   | 30            |          |           |          | 20       |          |          |          | PF    |
| TYPICAL THERMAL RESISTANCE (NOTE 2)                                                   | R <sub>θjc</sub> | 40            |          |           |          |          |          |          |          | °C/W  |
| STORAGE TEMPERATURE RANGE                                                             | T <sub>STG</sub> | - 55 TO + 150 |          |           |          |          |          |          |          | °C    |
| OPERATING TEMPERATURE RANGE                                                           | T <sub>OP</sub>  | - 55 TO + 150 |          |           |          |          |          |          |          | °C    |

**ELECTRICAL CHARACTERISTICS ( $A_T T_A=25^{\circ}C$  UNLESS OTHERWISE NOTED)**

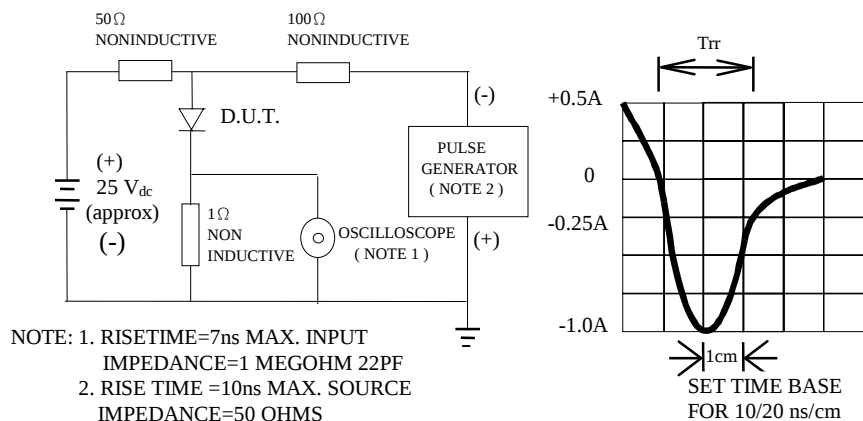
| CHARACTERISTICS                       | SYMBOL   | SF20-005G | SF20-01G | SF20-015G | SF20-02G | SF20-03G | SF20-04G | SF20-05G | SF20-06G | UNITS |         |
|---------------------------------------|----------|-----------|----------|-----------|----------|----------|----------|----------|----------|-------|---------|
| MAXIMUM FORWARD VOLTAGE AT $I_O$ DC   | $V_F$    | 0.95      |          |           |          | 1.25     |          | 1.85     |          | V     |         |
| MAXIMUM REVERSE CURRENT AT 25°C       | $I_R$    | 10        |          |           |          |          |          |          |          |       | $\mu A$ |
| MAXIMUM REVERSE CURRENT AT 100°C      | $I_R$    | 100       |          |           |          |          |          |          |          |       | $\mu A$ |
| MAXIMUM REVERSE RECOVERY TIME (NOTE3) | $T_{RR}$ | 35        |          |           |          |          |          |          |          |       | nS      |

NOTE :

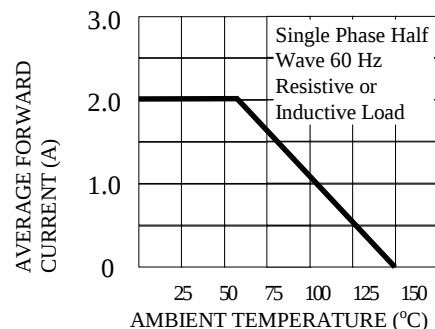
1. MEASURED AT 1 MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 VOLTS
2. BOTH LEADS ATTACHED TO HEATSINK 20x 20x 1t(mm) COPPER PLATE AT LEAD LENTH 5mm
3. REVERSE RECOVERY TEST CONDITIONS:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$

# RATINGS AND CHARACTERISTIC CURVE SF20-005G THRU SF20-06G

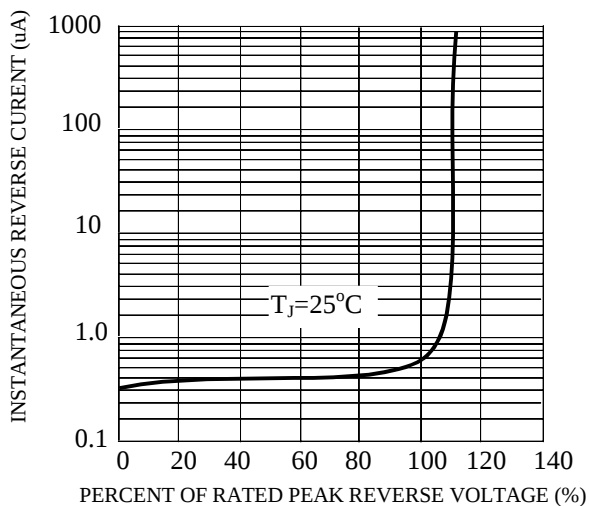
**FIG. 1-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



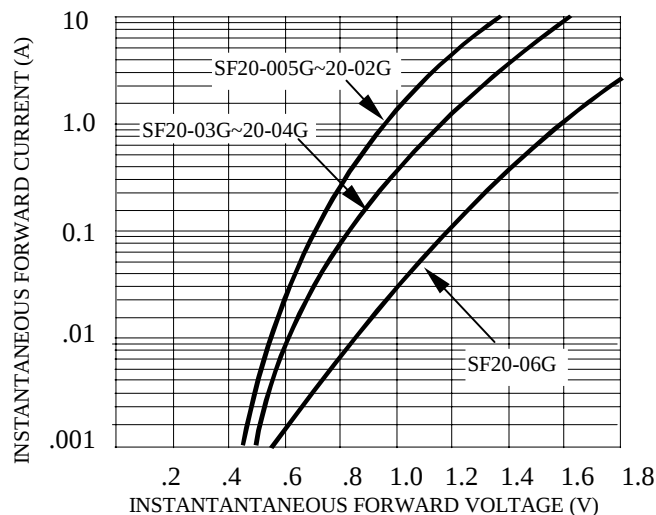
**FIG. 2-TYPICAL FORWARD CURRENT DERATING CURVE**



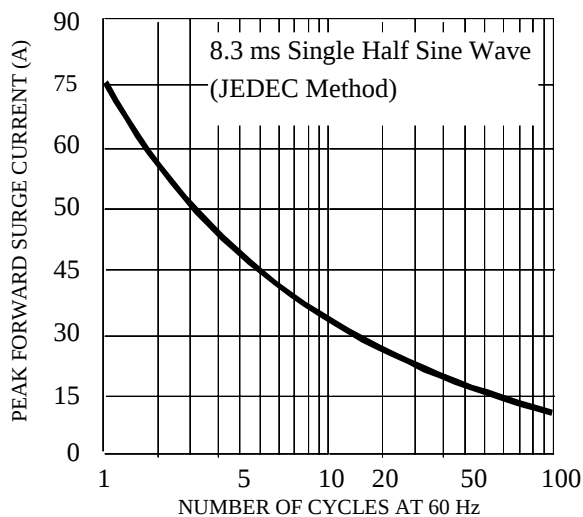
**FIG. 3-TYPICAL REVERSE CHARACTERISTICS**



**FIG. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG. 6-TYPICAL JUNCTION CAPACITANCE**

