



# SF21 THRU SF26

## GLASS PASSIVATED SUPER FAST RECTIFIER

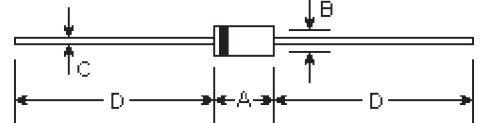
Reverse Voltage - 50 to 600 Volts

Forward Current - 2.0 Amperes

### Features

- High reliability
- Low leakage
- Low forward voltage
- High current capability
- Super fast switching speed
- High surge capability
- Good for switching mode circuit
- Glass passivated junction

### DO-15



### Mechanical Data

- **Case:** Molded plastic
- **Epoxy:** UL94V-0 rate flame retardant
- **Lead:** MIL-STD-202E method 208C guaranteed
- **Mounting Position:** Any
- **Weight:** 0.014 ounce, 0.395 gram

| DIMENSIONS |        |       |       |      |      |
|------------|--------|-------|-------|------|------|
| DIM        | inches |       | mm    |      | Note |
|            | Min.   | Max.  | Min.  | Max. |      |
| A          | 0.228  | 0.299 | 5.8   | 7.6  |      |
| B          | 0.102  | 0.142 | 2.6   | 3.6  | φ    |
| C          | 0.028  | 0.034 | 0.71  | 0.86 | φ    |
| D          | 1.000  | -     | 25.40 | -    |      |

### Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

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

For capacitive load, derate current by 20%.

|                                                                                                                                               | Symbols                           | SF21        | SF22 | SF23 | SF24 | SF25 | SF26 | Units |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------|------|------|------|------|------|-------|
| Maximum repetitive peak reverse voltage                                                                                                       | V <sub>RRM</sub>                  | 50          | 100  | 200  | 300  | 400  | 600  | Volts |
| Maximum RMS voltage                                                                                                                           | V <sub>RMS</sub>                  | 35          | 70   | 140  | 210  | 280  | 420  | Volts |
| Maximum DC blocking voltage                                                                                                                   | V <sub>DC</sub>                   | 50          | 100  | 200  | 300  | 400  | 600  | Volts |
| Maximum average forward current<br>0.375" (9.5mm) lead length at T <sub>A</sub> =55°C                                                         | I <sub>(AV)</sub>                 | 2.0         |      |      |      |      |      | Amps  |
| Peak forward surge current, I <sub>FSM</sub> (surge):<br>8.3mS single half sine-wave superimposed<br>on rated load (MIL-STD-750D 4066 method) | I <sub>FSM</sub>                  | 75.0        |      |      |      |      |      | Amps  |
| Maximum forward voltage at 2.0A DC                                                                                                            | V <sub>F</sub>                    | 0.95        |      |      |      | 1.27 | 1.75 | Volts |
| Maximum DC reverse current<br>at rated DC blocking voltage<br>T <sub>A</sub> =25°C<br>T <sub>A</sub> =150°C                                   | I <sub>R</sub>                    | 5.0<br>50.0 |      |      |      |      |      | μA    |
| Maximum reverse recovery time (Note 1)                                                                                                        | T <sub>rr</sub>                   | 35.0        |      |      |      |      |      | nS    |
| Typical junction capacitance (Note 2)                                                                                                         | C <sub>J</sub>                    | 30          |      |      |      | 20   |      | pF    |
| Operating and storage temperature range                                                                                                       | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150 |      |      |      |      |      | °C    |

Notes:

(1) Test conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$

(2) Measured at 1.0MHz and applied reverse voltage of 4.0 volts

## RATINGS AND CHARACTERISTIC CURVES

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

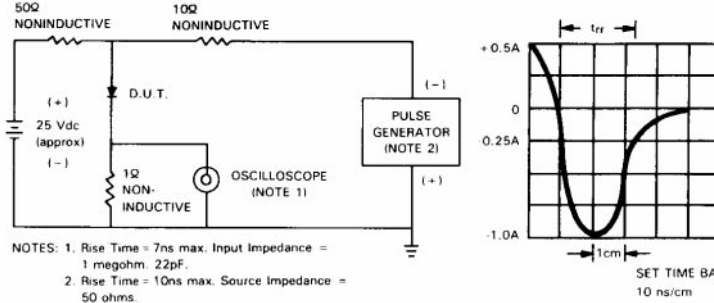


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

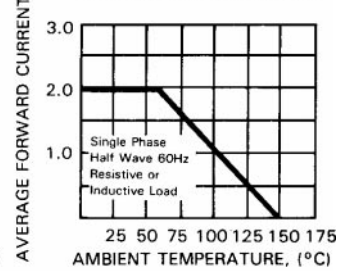


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

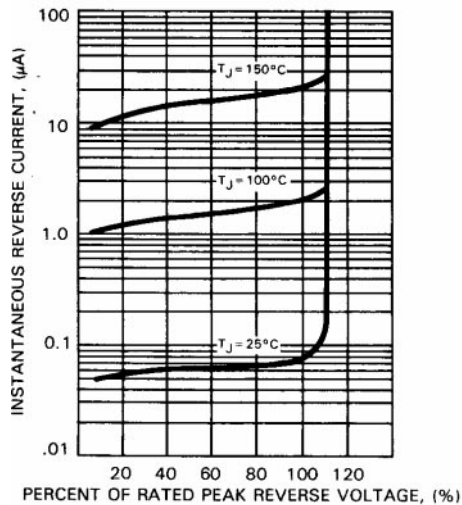


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

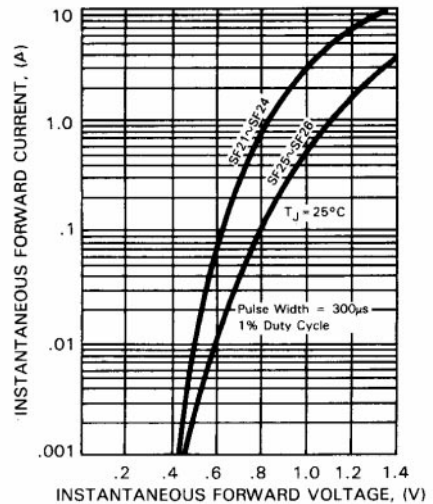


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

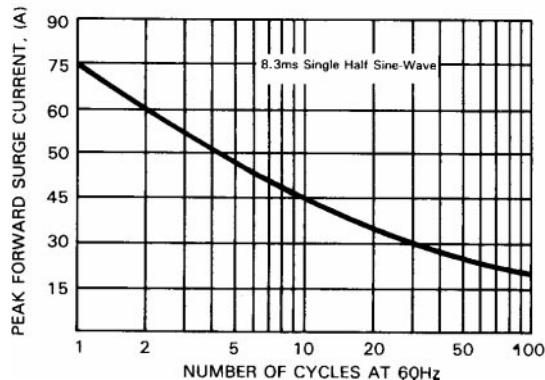


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

