



# SF11 THRU SF16

## GLASS PASSIVATED SUPER FAST RECTIFIER

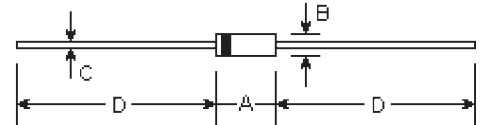
Reverse Voltage - 50 to 600 Volts

Forward Current - 1.0 Ampere

### 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-41



### Mechanical Data

- **Case:** Molded plastic
- **Epoxy:** UL94V-0 rate flame retardant
- **Lead:** MIL-STD-202E method 208C guaranteed
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any
- **Weight:** 0.012 ounce, 0.335 gram

| DIMENSIONS |        |       |       |      | Note |
|------------|--------|-------|-------|------|------|
| DIM        | inches |       | mm    |      |      |
|            | Min.   | Max.  | Min.  | Max. |      |
| A          | 0.165  | 0.205 | 4.2   | 5.2  |      |
| B          | 0.079  | 0.106 | 2.0   | 2.7  | 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        | SF11        | SF12 | SF13 | SF14 | SF15 | SF16 | Units            |
|--|----------------|-------------|------|------|------|------|------|------------------|
| Maximum repetitive peak reverse voltage  | $V_{RRM}$      | 50          | 100  | 200  | 300  | 400  | 600  | Volts            |
| Maximum RMS voltage  | $V_{RMS}$      | 35          | 70   | 140  | 210  | 280  | 420  | Volts            |
| Maximum DC blocking voltage  | $V_{DC}$       | 50          | 100  | 200  | 300  | 400  | 600  | Volts            |
| Maximum average forward current<br>0.375" (9.5mm) lead length at $T_A=55^\circ\text{C}$  | $I_{(AV)}$     | 1.0         |      |      |      |      |      | Amp              |
| Peak forward surge current, $I_{FSM}$ (surge):<br>8.3mS single half sine-wave superimposed<br>on rated load (MIL-STD-750D 4066 method) | $I_{FSM}$      | 30.0        |      |      |      |      |      | Amps             |
| Maximum forward voltage at 1.0A DC   | $V_F$          | 0.95        |      |      |      | 1.27 | 1.75 | Volts            |
| Maximum DC reverse current<br>at rated DC blocking voltage<br>$T_A=25^\circ\text{C}$<br>$T_A=150^\circ\text{C}$                        | $I_R$          | 5.0         |      |      |      | 50.0 |      | $\mu\text{A}$    |
| Maximum reverse recovery time (Note 1)   | $T_{rr}$       | 35.0        |      |      |      |      |      | nS               |
| Typical junction capacitance (Note 2)  | $C_J$          | 15          |      |      |      | 10   |      | $\mu\text{F}$    |
| Operating and storage temperature range  | $T_J, T_{STG}$ | -65 to +150 |      |      |      |      |      | $^\circ\text{C}$ |

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

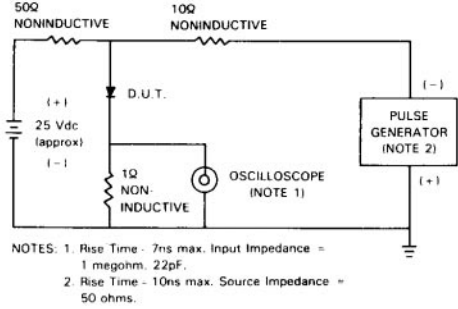


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

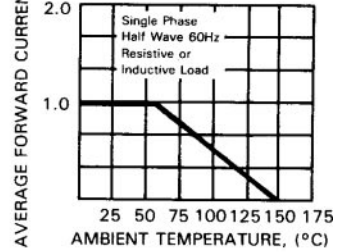


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

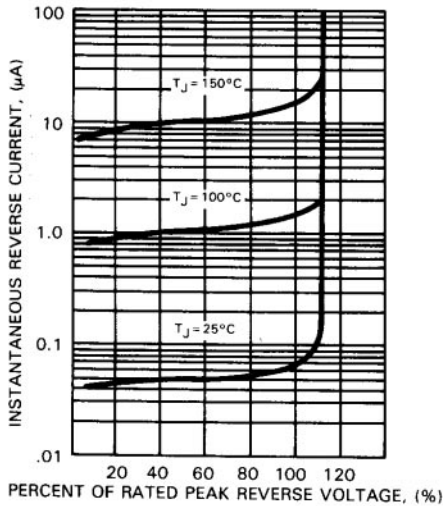


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

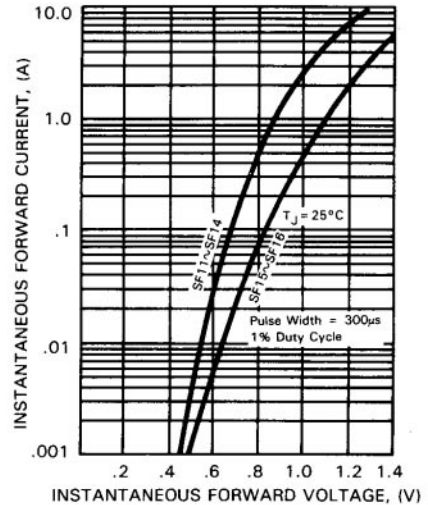


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

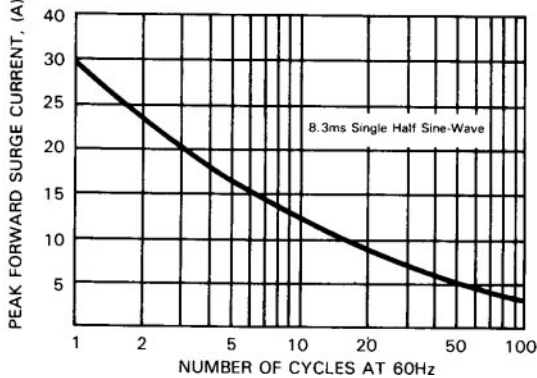


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

