



SF11 THRU SF16

GLASS PASSIVATED SUPER FAST RECTIFIER

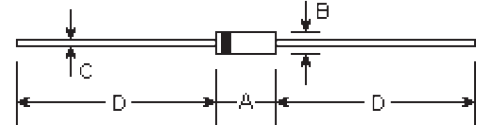
Reverse Voltage - 50 to 600 Volts

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

| DIM | DIMENSIONS | | | | Note |
|-----|------------|-------|-------|------|------|
| | 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 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): 8.3mS single half sine-wave superimposed 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 at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=150^\circ\text{C}$ | I_R | 5.0 | | | | 50.0 | | μA |
| Maximum reverse recovery time (Note 1) | T_{rr} | 35.0 | | | | | | nS |
| Typical junction capacitance (Note 2) | C_J | 15 | | | | 10 | | μF |
| 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

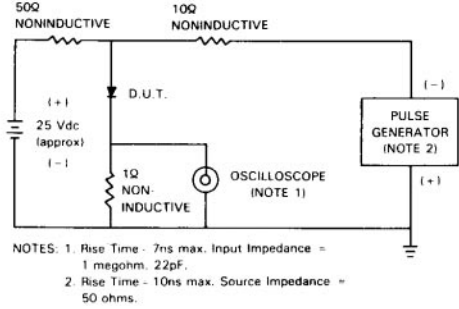


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

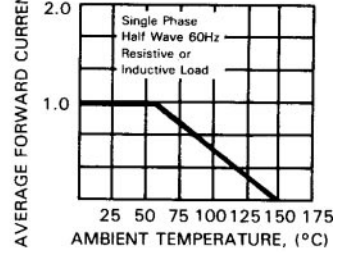


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

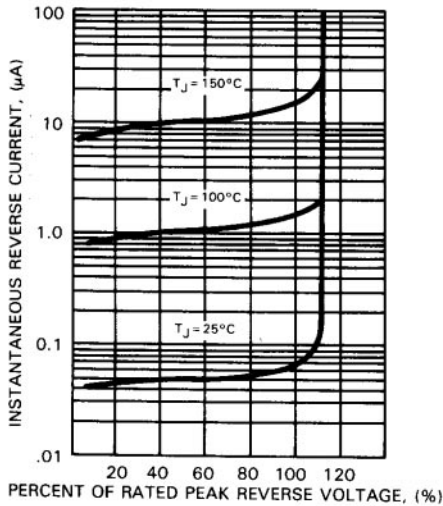


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

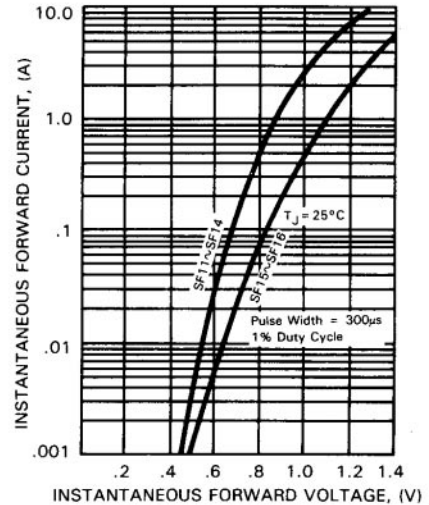


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

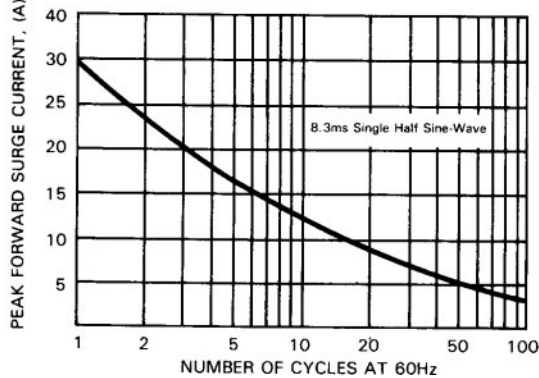


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

