



SUPER FAST RECOVERY RECTIFIER

SF11 THRU SF18

**VOLTAGE RANGE
CURRENT**

**50 to 600 Volts
1.0Ampere**

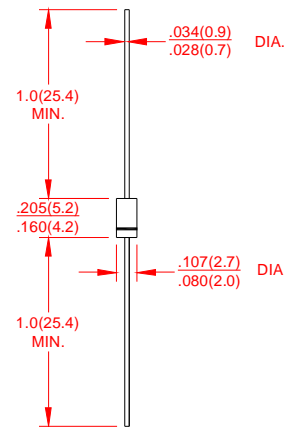
DO-41

FEATURES

- Low coat construction
- Fast switching for high efficiency.
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:
260°C/10 secods/.375”(9.5mm)lead length at 5 lbs(2.3kg) tension

MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-O rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.012ounce, 0.33grams



Dimensions in inches and (millimeters)

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 | SF 11 | SF 12 | SF 13 | SF 14 | SF 15 | SF 16 | SF 17 | SF 18 | UNITS |
|--|-----------------|---------------------|-------|-------|-------|-------|-------|-------|-------|--------------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | Volts |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | 350 | 420 | Volts |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | Volts |
| Maximum Average Forward Rectified Current 0.375”(9.5mm) lead length at $T_A=55^\circ C$ | $I_{(AV)}$ | 1.0 | | | | | | | | Amp |
| Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method) | I_{FSM} | 30 | | | | | | | | Amps |
| Maximum Instantaneous Forward Voltage @ 1.0A | V_F | 0.95 | | | 1.25 | | 1.7 | | | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | I_R | $T_A = 25^\circ C$ | | | | | | | | μA |
| | | $T_A = 125^\circ C$ | | | | | | | | |
| Maximum Reverse Recovery Time Test conditions $I_F=0.5A, I_R=1.0A, I_{RR}=0.25A$ | t_{rr} | 35 | | | | | | | | ns |
| Typical Thermal Capavitance (Measured at 1.0MHz and applied rever voltage of 4.0V) | C_J | 15 | | | | 10 | | | | PF |
| Typical Thermal Resistance(NOTE 1) | $R_{\theta JA}$ | 60 | | | | | | | | $^\circ C/W$ |
| Operating Junction Temperature Range | T_J | (-55 to +150) | | | | | | | | $^\circ C$ |
| Storage Temperature Range | T_{STG} | (-55 to +150) | | | | | | | | $^\circ C$ |

Notes:

1. Thermal resistance from junction to ambient with .375”(9.5mm)lead length, P.C.B. mounted. .



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FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

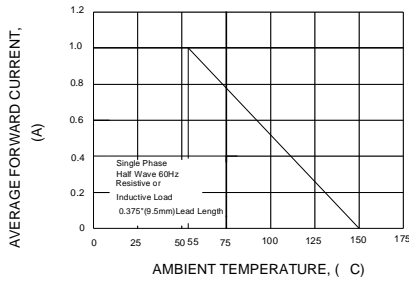


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

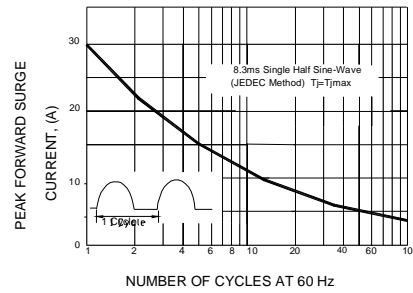


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

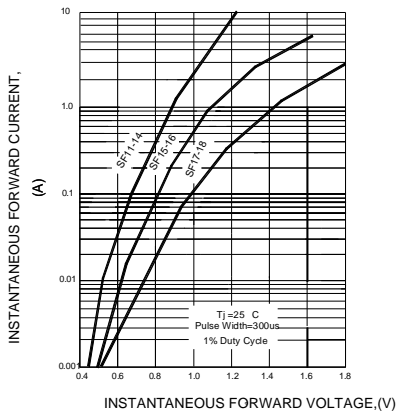


FIG.4-TYPICAL REVERSE CHARACTERISTICS

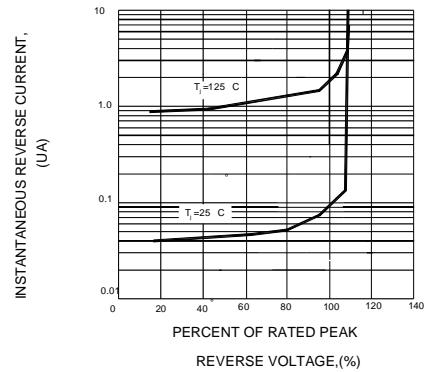


FIG.5-TYPICAL JUNCTION CAPACITANCE

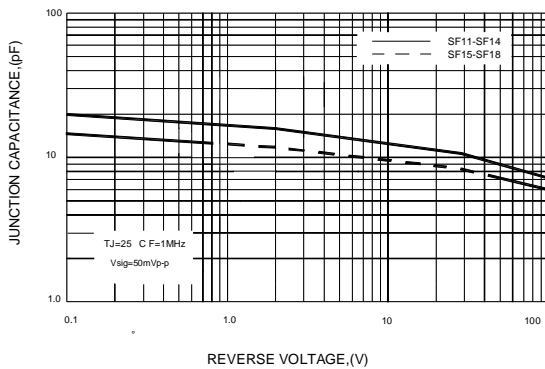


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

