



DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

**SF81
THRU
SF86**

TECHNICAL SPECIFICATIONS OF SUPER FAST RECTIFIER

VOLTAGE RANGE - 50 to 400 Volts

CURRENT - 8.0 Amperes

FEATURES

- * Low switching noise
- * Low forward voltage drop
- * Low thermal resistance
- * High current capability
- * Super fast switching speed
- * High reliability
- * Good for switching mode circuit

MECHANICAL DATA

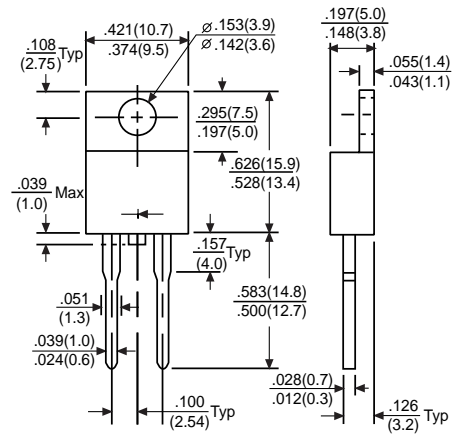
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: MIL-STD-202E, Method 208 guaranteed
- * Mounting position: Any
- * Weight: 2.24 grams

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%.



TO-220A



Dimensions in inches and (millimeters)

| | SYMBOL | SF81 | SF82 | SF83 | SF84 | SF85 | SF86 | UNITS |
|---|-----------------------------------|--------------|------|------|------|------|------|-------|
| Maximum Recurrent Peak Reverse Voltage | V _{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | Volts |
| Maximum RMS Voltage | V _{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | Volts |
| Maximum DC Blocking Voltage | V _{DC} | 50 | 100 | 150 | 200 | 300 | 400 | Volts |
| Maximum Average Forward Rectified Current at T _c = 100°C | I _O | 8.0 | | | | | | Amps |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | I _{FSM} | 150 | | | | | | Amps |
| Maximum Instantaneous Forward Voltage at 8.0A DC | V _F | 1.0 | | | 1.35 | | | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | @T _c = 25°C | 10 | | | | | | uAmps |
| | @T _c = 100°C | 500 | | | | | | |
| Maximum Reverse Recovery Time (Note 1) | t _{rr} | 35 | | | 50 | | | nSec |
| Typical Thermal Resistance | R _{θJC} | 3 | | | | | | °C/W |
| Typical Junction Capacitance (Note 2) | C _J | 50 | | | 30 | | | pF |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 to + 150 | | | | | | °C |

- NOTES : 1. Test Conditions: I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A
 2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
 3. Suffix "R" for Reverse Polarity.

RATING AND CHARACTERISTIC CURVES (SF81 THRU SF86)

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

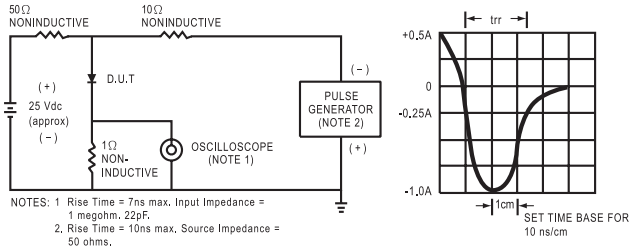


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

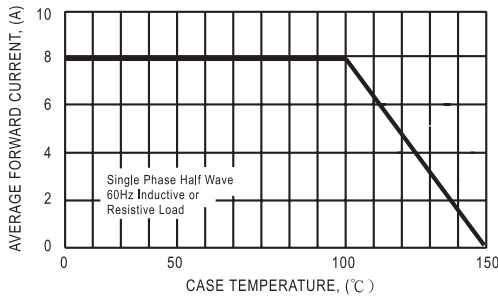


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

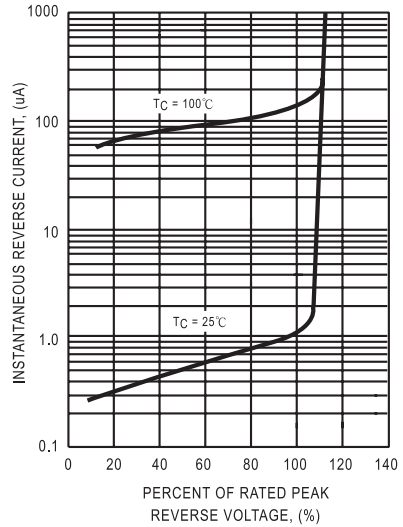


FIG. 4 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

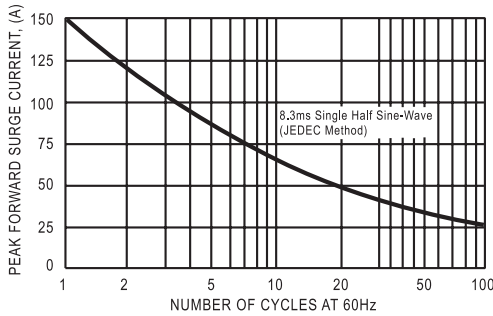


FIG. 5 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

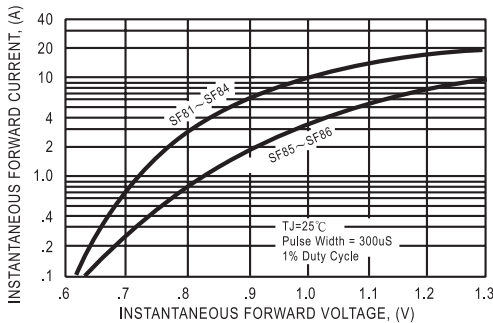


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

