



DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

**SF31
THRU
SF38**

TECHNICAL SPECIFICATIONS OF SUPER FAST RECTIFIER

VOLTAGE RANGE - 50 to 600 Volts

CURRENT - 3.0 Amperes

FEATURES

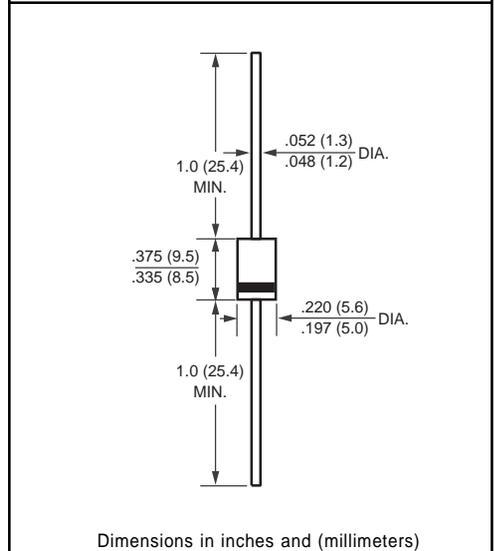
- * High reliability
- * Low leakage
- * Low forward voltage
- * High current capability
- * Super fast switching speed
- * High surge capability
- * Good for switching mode circuit

MECHANICAL DATA

- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: MIL-STD-202E, Method 208 guaranteed
- * Mounting position: Any
- * Weight: 1.18 grams



DO-27



Dimensions in inches and (millimeters)

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%.

| | SYMBOL | SF31 | SF32 | SF33 | SF34 | SF35 | SF36 | SF38 | UNITS | |
|---|-----------------------------------|-------------------------|------|------|------|------|------|------|-------|----|
| Maximum Recurrent Peak Reverse Voltage | V _{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | Volts | |
| Maximum RMS Volts | V _{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | 420 | Volts | |
| Maximum DC Blocking Voltage | V _{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | Volts | |
| Maximum Average Forward Current at T _A = 55°C | I _O | 3.0 | | | | | | | Amps | |
| Peak Forward Surge Current I _{FM} (surge):8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | I _{FSM} | 125 | | | | | | | Amps | |
| Maximum Forward Voltage at 3.0A DC | V _F | 0.95 | | | 1.25 | | 1.7 | | Volts | |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | I _R | @ T _A = 25°C | | | | | | | uAmps | |
| | | 5.0 | | | | | | | | |
| | | 300 | | | | | | | | |
| Maximum Reverse Recovery Time (Note 1) | t _{rr} | 35 | | | | | | | nSec | |
| Typical Junction Capacitance (Note 2) | C _J | 50 | | | | 30 | | | | pF |
| Operating and Storage Temperature Range | T _J , T _{STG} | -55 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.

RATING AND CHARACTERISTIC CURVES (SF31 THRU SF38)

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

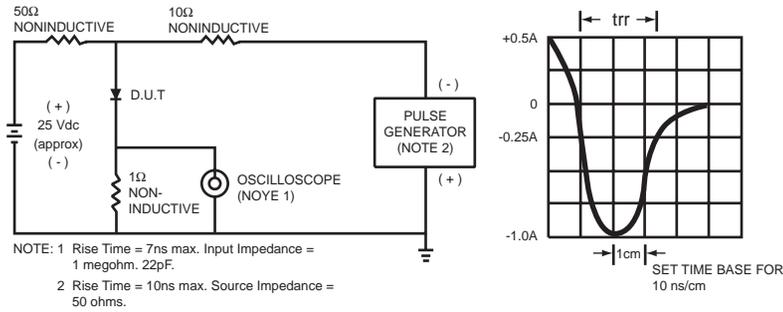


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

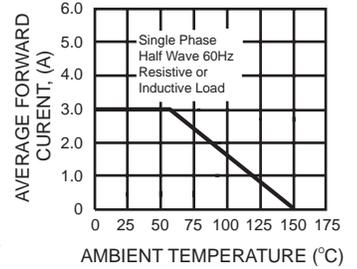


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

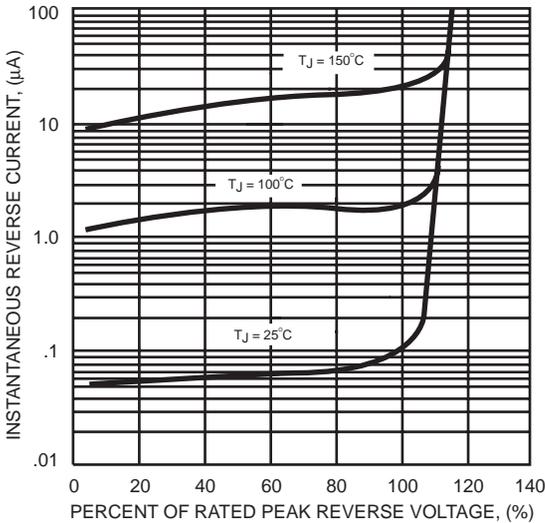


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

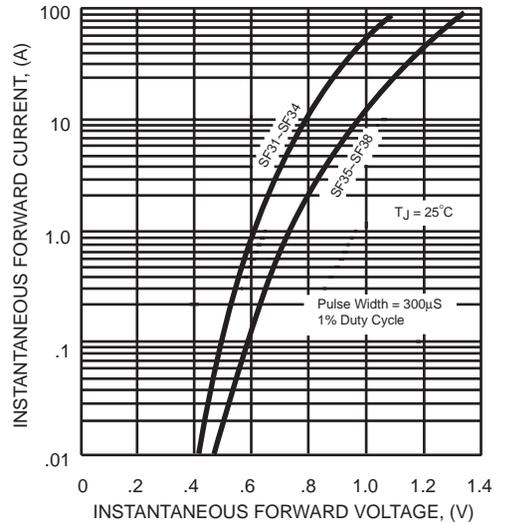


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

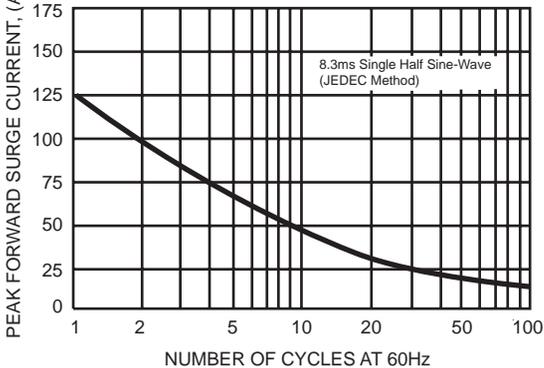
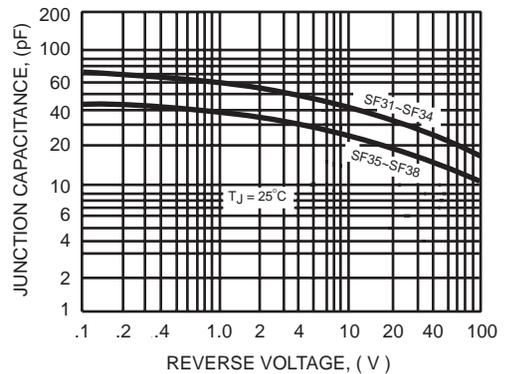


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



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