



SF31 THRU SF38

3.0 AMP SUPER FAST RECTIFIERS



FEATURES

- * Low forward voltage drop
- * High current capability
- * High reliability
- * High surge current capability
- * Good for switching mode application

MECHANICAL DATA

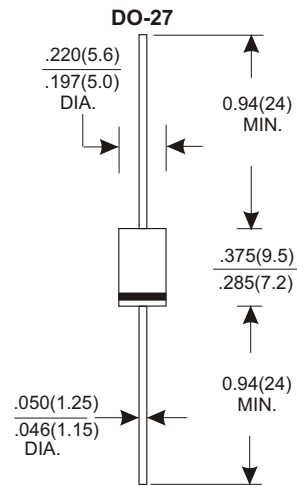
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: Axial leads, solderable per MIL-STD-202, method 208 guranteed
- * Polarity: Color band denotes cathode end
- * Mounting position: Any
- * Weight: 1.10 grams

VOLTAGE RANGE

50 to 600 Volts

CURRENT

3.0 Amperes



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unieess otherwies specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| TYPE NUMBER | SF31 | SF32 | SF33 | SF34 | SF35 | SF36 | SF38 | UNITS | |
|--|------|------|------|------|------|------|------|------------|----|
| Maximum Recurrent Peak Reverse Voltage | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V | |
| Maximum RMS Voltage | 35 | 70 | 105 | 140 | 210 | 280 | 420 | V | |
| Maximum DC Blocking Voltage | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V | |
| Maximum Average Forward Rectified Current | | | | | | | | | |
| .375"(9.5mm) Lead Length at Ta=55°C | | | | | | | | 3.0 | A |
| Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | | | | | | | | 125 | A |
| Maximum Instantaneous Forward Voltage at 3.0A | 0.95 | | | | | 1.30 | 1.70 | V | |
| Maximum DC Reverse Current Ta=25°C | | | | | | | | 5.0 | µA |
| at Rated DC Blocking Voltage Ta=100°C | | | | | | | | 50 | µA |
| Maximum Reverse Recovery Time (Note 1) | | | | | | | | 35 | nS |
| Typical Junction Capacitance (Note 2) | | | | | | | | 50 | pF |
| Operating and Storage Temperature Range Tj, Tstg | | | | | | | | -65 — +150 | °C |

NOTES:

1. Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

RATING AND CHARACTERISTIC CURVES (SF31 THRU SF38)

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



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.
2. Rise Time= 10ns max., Source Impedance= 50 ohms.



FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

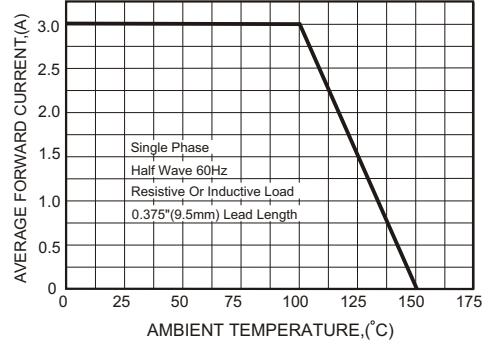


FIG.3-TYPICAL FORWARD CHARACTERISTICS

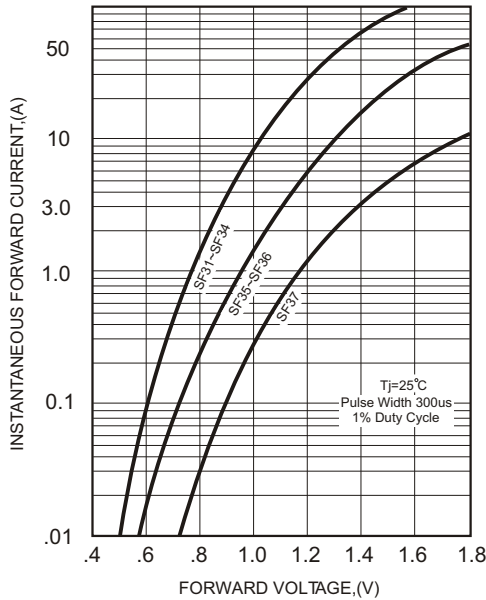


FIG.4-TYPICAL REVERSE CHARACTERISTICS

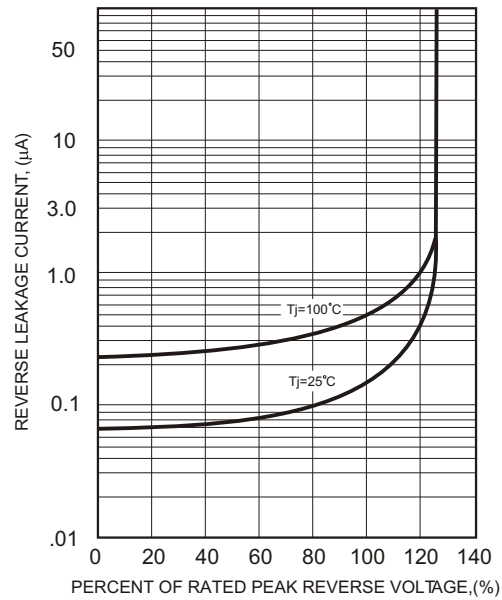


FIG.5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

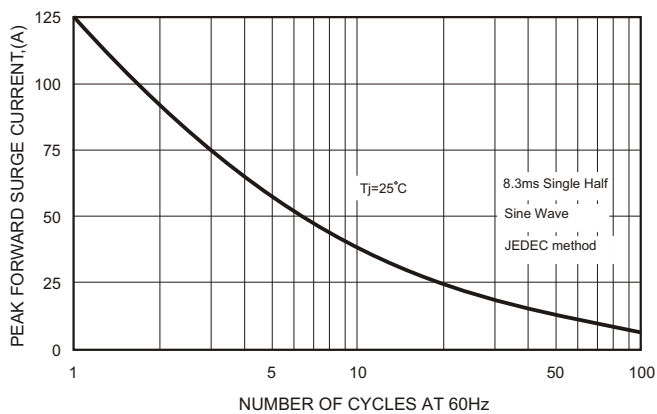


FIG.6-TYPICAL JUNCTION CAPACITANCE

