

# 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 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 1.10 grams

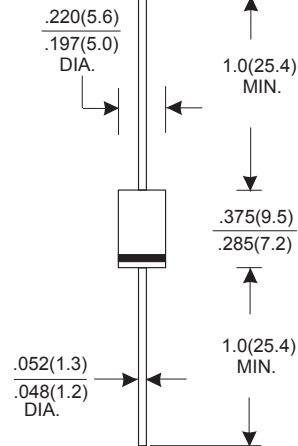
## VOLTAGE RANGE

50 to 600 Volts

## CURRENT

3.0 Amperes

DO-27



Dimensions in inches and (millimeters)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

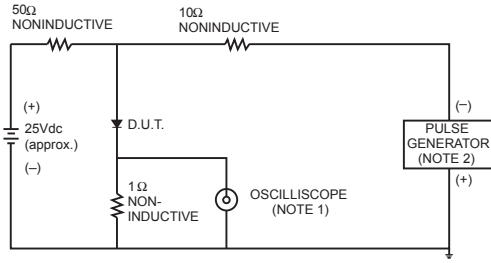
| TYPE NUMBER   | SF31       | SF32 | SF33 | SF34 | SF35 | SF36 | SF38 | UNITS |
|---|------------|------|------|------|------|------|------|-------|
| Maximum Recurrent Peak Reverse Voltage  | 50         | 100  | 150  | 200  | 300  | 400  | 600  | V     |
| Maximum RMS Voltage   | 35         | 70   | 105  | 140  | 210  | 280  | 420  | V     |
| Maximum DC Blocking Voltage   | 50         | 100  | 150  | 200  | 300  | 400  | 600  | V     |
| Maximum Average Forward Rectified Current<br>.375"(9.5mm) Lead Length at Ta=55°C                      | 3.0        |      |      |      |      |      |      | A     |
| Peak Forward Surge Current, 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | 125        |      |      |      |      |      |      | A     |
| Maximum Instantaneous Forward Voltage at 3.0A   | 0.95       |      |      | 1.25 |      | 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:

- Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A
- 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

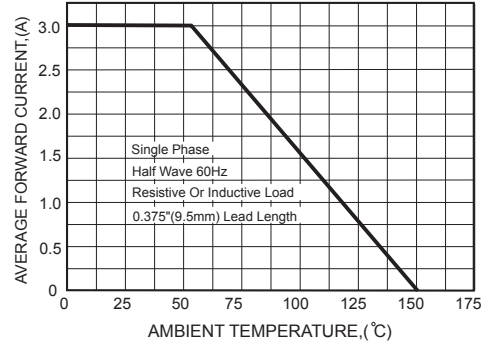


FIG.3-TYPICAL FORWARD CHARACTERISTICS

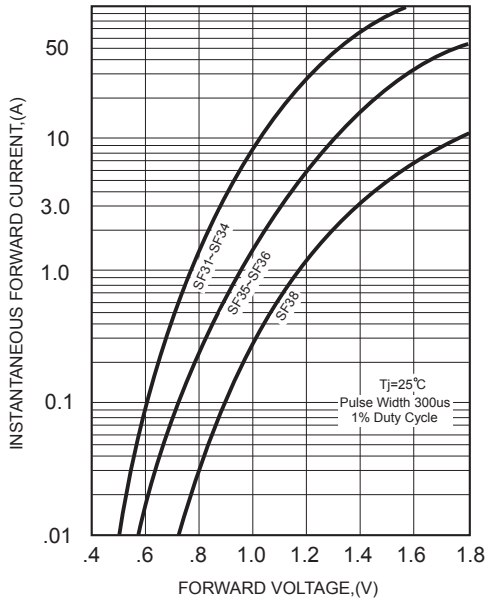


FIG.4-TYPICAL REVERSE CHARACTERISTICS

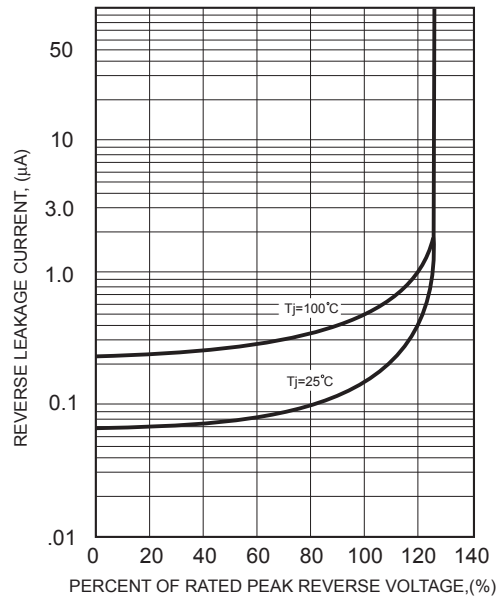


FIG.5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

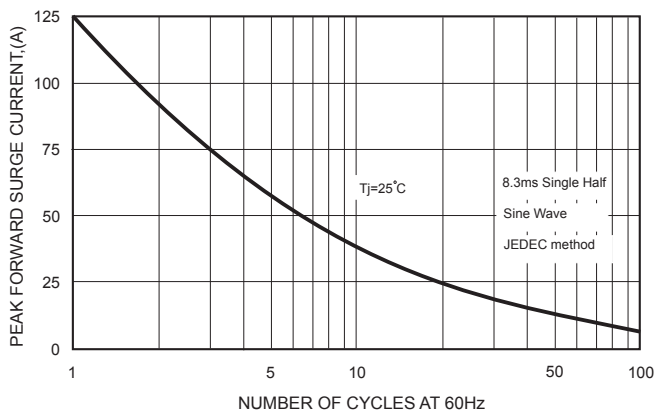


FIG.6-TYPICAL JUNCTION CAPACITANCE

