# DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

**SF21 THRU SF28**

## *TECHNICAL SPECIFICATIONS OF SUPER FAST RECTIFIER*

*VOLTAGE RANGE - 50 to 600 Volts* *CURRENT - 2.0 Amperes*

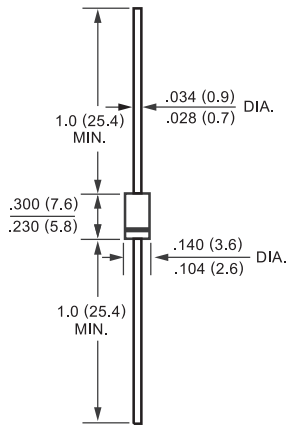
### FEATURES

* 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: 0.38 gram

DO-15




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 | SF21 | SF22 | SF23 | SF24 | SF25 | SF26 | SF28 | 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 $T_A$ = 55°C | | $I_O$ | 2.0 | | | | | | | Amps |
| Peak Forward Surge Current $I_{FM}$ (surge):8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | | $I_{FSM}$ | 75 | | | | | | | Amps |
| Maximum Forward Voltage at 2.0A DC | | $V_F$ | 0.95 | | | | 1.25 | | 1.7 | Volts |
| Maximum DC Reverse Current | @$T_A$ = 25°C | $I_R$ | 5.0 | | | | | | | uAmps |
| at Rated DC Blocking Voltage | @$T_A$ =150°C | | 200 | | | | | | | |
| Maximum Reverse Recovery Time (Note 1) | | trr | 35 | | | | | | | nSec |
| Typical Junction Capacitance (Note 2) | | $C_J$ | 30 | | | | 20 | | | pF |
| Operating and Storage Temperature Range | | $T_J$, $T_{STG}$ | -65 to + 150 | | | | | | | °C |

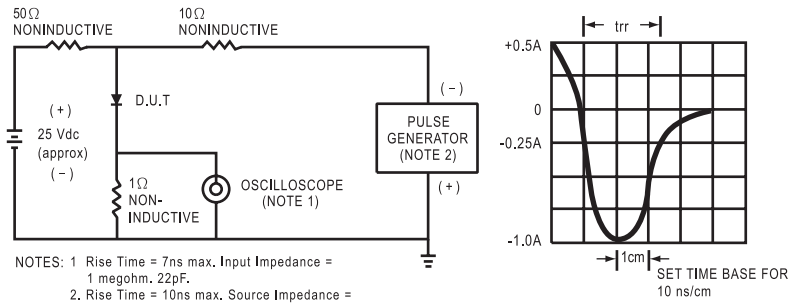
NOTES : 1. Test Conditions: $I_F$=0.5A, $I_R$=1.0A, $I_{RR}$=0.25A.

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.



NEXT BACK EXIT

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

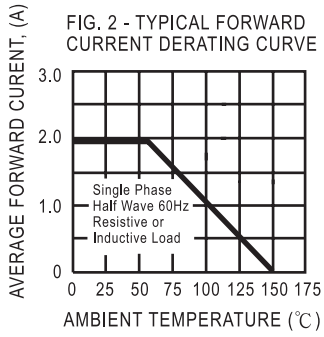



FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

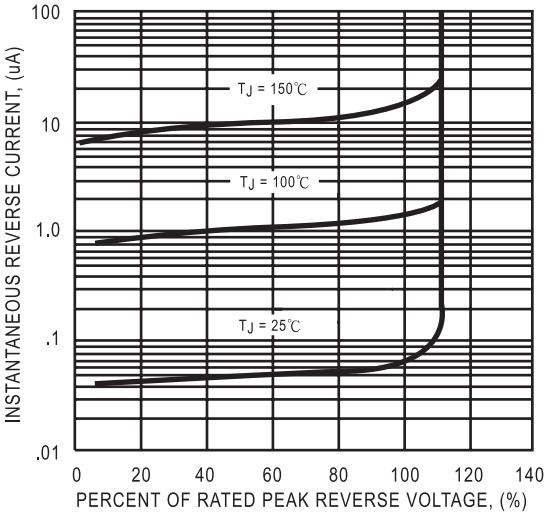



FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

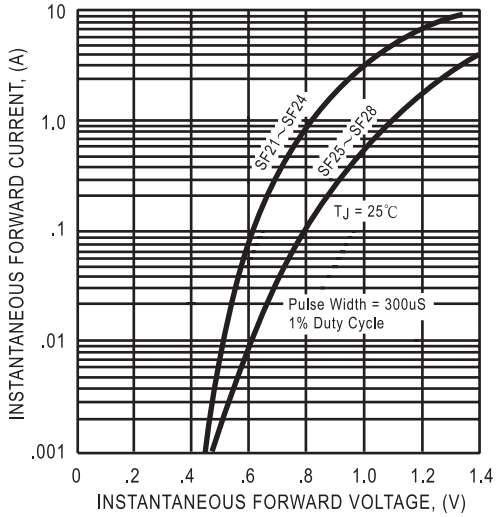



FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

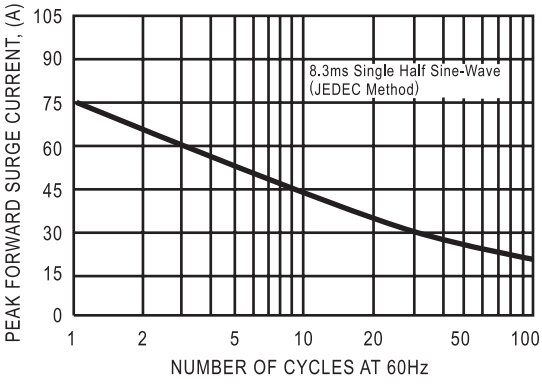



FIG. 6 - TYPICAL JUNCTION CAPACITANCE