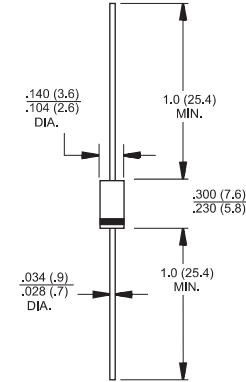


# SF21 - SF28

## 2.0 AMPS. Super Fast Rectifiers

### DO-15



## Features

- ✧ High efficiency, low VF
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability
- ✧ Low power loss.
- ✧ For use in low voltage, high frequency inverter, free wheeling, and polarity protection application

## Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Pure tin plated, lead free. solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode
- ✧ High temperature soldering guaranteed: 260°C/10 seconds/.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Weight: 0.40 gram

Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

Rating 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%

Type Number	Symbol	SF 21	SF 22	SF 23	SF 24	SF 25	SF 26	SF 27	SF 28	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	500	600	V
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	350	420	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	500	600	V
Maximum Average Forward Rectified Current .375 (9.5mm) Lead Length @ $T_A = 55^\circ C$	$I_{(AV)}$	2.0								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	$I_{FSM}$	50								A
Maximum Instantaneous Forward Voltage @ 2.0A	$V_F$	0.95			1.3		1.7			V
Maximum DC Reverse Current @ $T_A = 25^\circ C$ at Rated DC Blocking Voltage @ $T_A = 100^\circ C$	$I_R$					5.0		100		$\mu A$ $\mu A$
Maximum Reverse Recovery Time (Note 1)	$T_{rr}$	35								nS
Typical Junction Capacitance (Note 2)	$C_j$	40				30				pF
Typical Thermal Resistance	$R_{\theta JA}$	65								$^\circ C/W$
Operating Temperature Range	$T_J$	-65 to +125								$^\circ C$
Storage Temperature Range	$T_{STG}$	-65 to +150								$^\circ C$

- Notes:
1. Reverse Recovery 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 V D.C.
  3. Mount on Cu-Pad Size 10mm x 10mm on PCB.

## RATINGS AND CHARACTERISTIC CURVES (SF21 THRU SF28)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

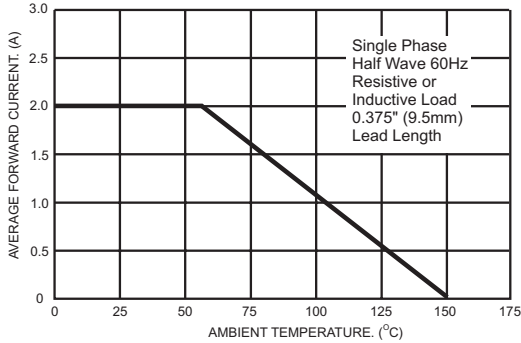


FIG.3- TYPICAL REVERSE CHARACTERISTICS

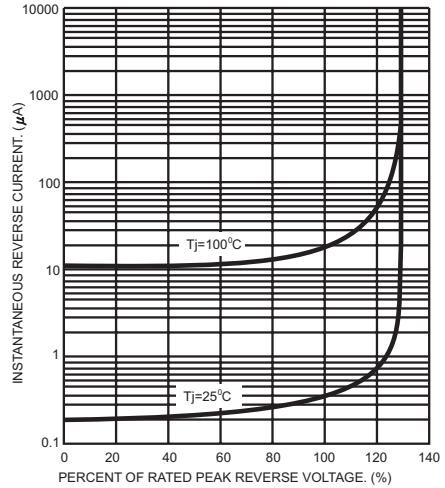


FIG.5- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

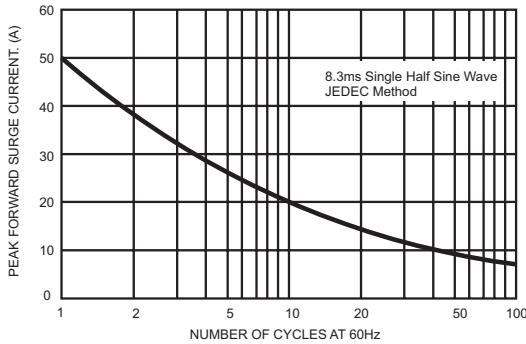


FIG.4- TYPICAL FORWARD CHARACTERISTICS

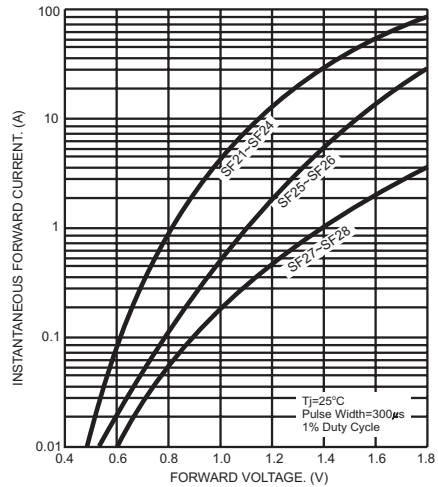


FIG.5- TYPICAL JUNCTION CAPACITANCE

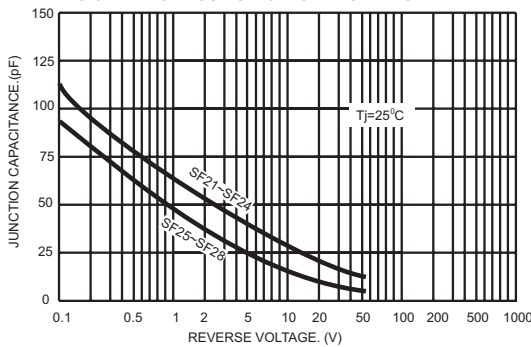


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

