



# SFF1002 THRU SFF1006

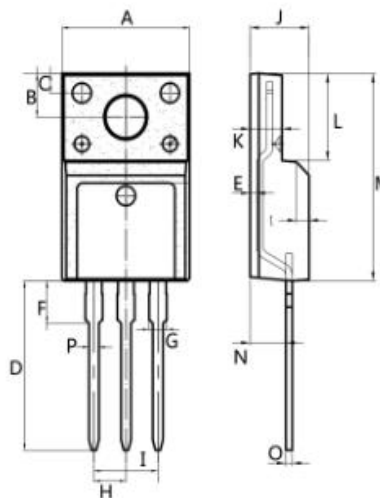
## Superfast Recovery Rectifiers

### FEATURES

- ◆ Ultrafast 35 Nanosecond Recovery Time
- ◆ 150°C Operating Junction Temperature
- ◆ Popular ITO-220AB Package
- ◆ Epoxy Meets UL94 ,V0 @ 1/8"
- ◆ High Temperature Glass Passivated Junction
- ◆ Low Forward Voltage
- ◆ Low Leakage Current
- ◆ Reverse Voltage to 600 Volts
- ◆ Pb-Free Packages are Available

### MECHANICAL DATA

- Case: Epoxy, Molded
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped 50 units per plastic tube



ITO-220AB

Dim.	Min.	Max.
A	9.95	10.25
B	2.95	3.25
C	1.25	1.45
D	12.95	13.25
E	0.50	0.65
F	3.1	3.3
G	1.30	1.45
H	Typ 2.54	
I	Typ 5.08	
J	4.60	4.75
K	2.50	2.65
L	6.35	6.55
M	15.4	16.0
N	2.75	3.05
O	0.48	0.52
P	0.76	0.84

All Dimensions in millimeter

### Maximum Ratings and Electrical Characteristics

Ratings at 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	Symbol	SFF1002	SFF1004	SFF1006	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	200	400	600	V
Maximum RMS Voltage	$V_{RMS}$	140	280	420	V
Maximum DC Blocking Voltage	$V_{DC}$	200	400	600	V
Maximum Average Forward Rectified Current .375 (9.5mm) Lead Length @ $T_C = 100^\circ C$	$I_{(AV)}$	10			A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	$I_{FSM}$	80			A
Maximum Instantaneous Forward Voltage @ 5.0A	$V_F$	0.975	1.30	1.70	V
Maximum DC Reverse Current @ $T_A=25^\circ C$ at Rated DC Blocking Voltage @ $T_A=100^\circ C$	$I_R$	10 400			uA uA
Maximum Reverse Recovery Time (Note 1)	$T_{rr}$	35			nS
Typical Junction Capacitance (Note 2)	$C_j$	70		50	pF
Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	2.0			°C/W
Operating Temperature Range	$T_J$	-65 to +150			°C
Storage Temperature Range	$T_{STG}$	-65 to +150			°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.

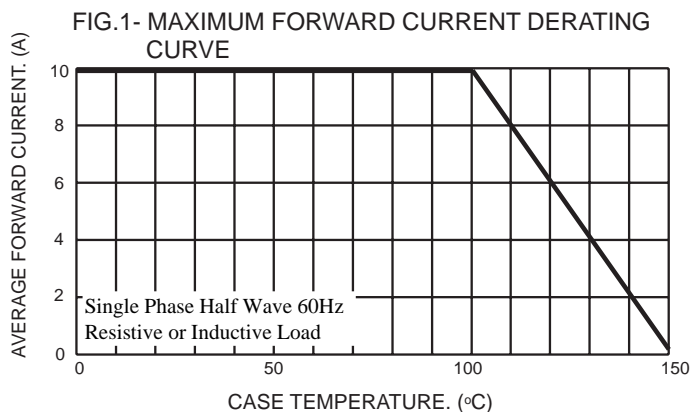
3. Mounted on Heatsink Size of 2" x 3" x 0.25" Al-plate.



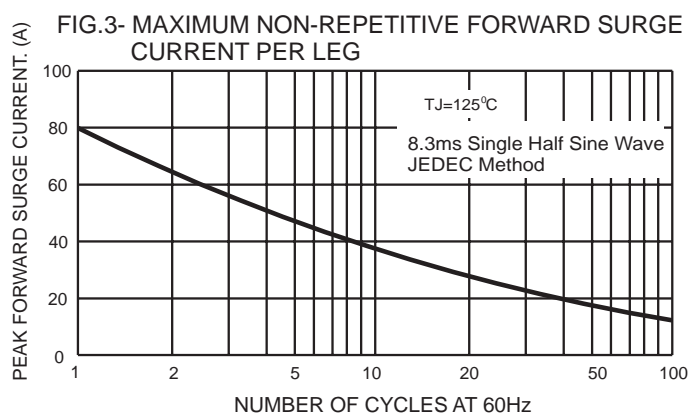
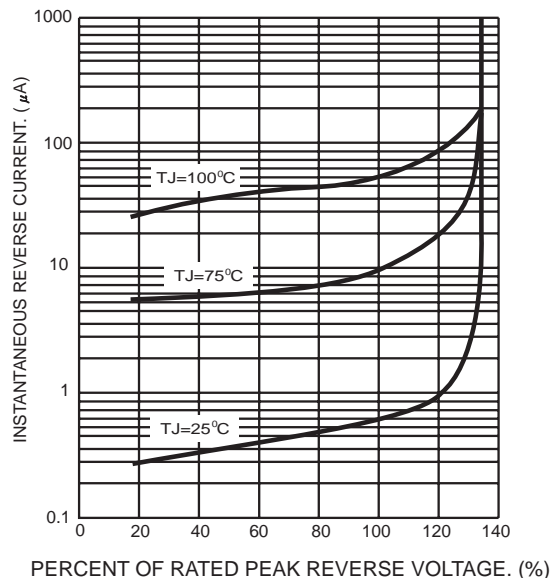
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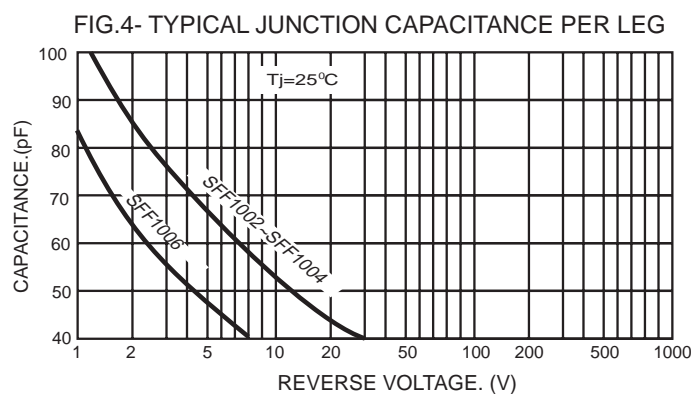
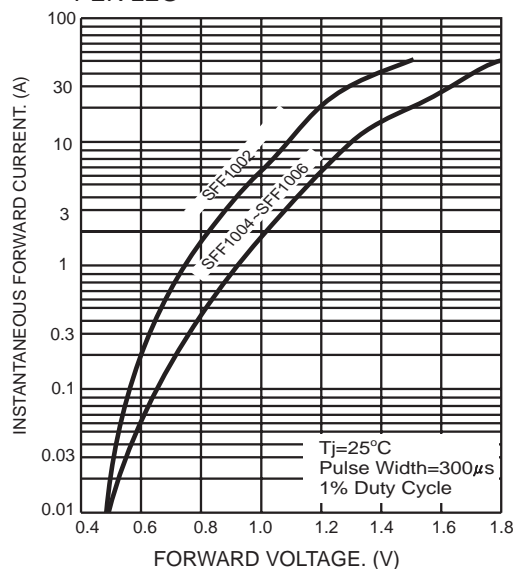
### Characteristic Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)



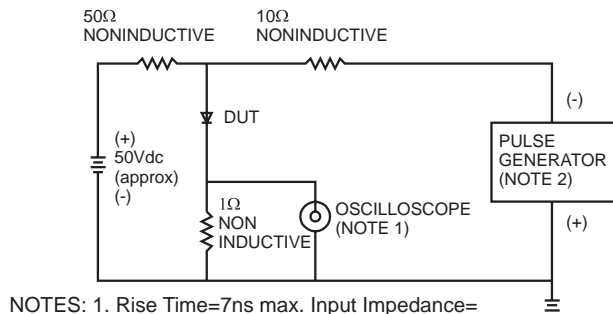
**FIG.2- TYPICAL REVERSE CHARACTERISTICS**



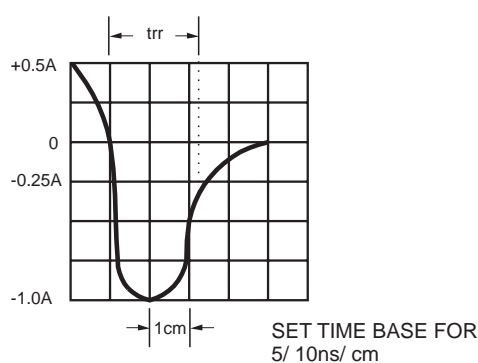
**FIG.5- TYPICAL FORWARD CHARACTERISTICS PER LEG**



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



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



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