SFF2002 THRU SFF2006

Superfast Recovery Rectifiers

FEATURES

- Ultrafast 35 Nanosecond Recovery Time
- 150° C Operating Junction Temperature
- Popular ITO-220 & TO-220 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

ITO-220AB

TO-220AB

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

Maximum Ratings and Electrical Characteristics

Ratings at 25℃ ambient temperature unless otherwise specified.
Single phase, half wave, 60H_Z, resistive or inductive load.
For capacitive load, derate current by 20%.

Type Number	Symbol	SFF2002	SFF2004	SFF2006	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 @T_C = 100 °C	$I_{(AV)}$	20			A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	125			A
Maximum Instantaneous Forward Voltage @ 10A	V_F	0.975	1.30	1.70	V
Maximum DC Reverse Current @ T_A=25 °C at Rated DC Blocking Voltage @ T_A=100 °C	I_R	10 400			uA uA
Maximum Reverse Recovery Time (Note 1)	Trr	35			nS
Typical Junction Capacitance (Note 2)	Cj	90			pF
Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	2.5			°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. Thermal Resistance from Junction to Case Mounted on Heatsink.

Characteristic Curves (T_A=25 ℃ unless otherwise noted)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

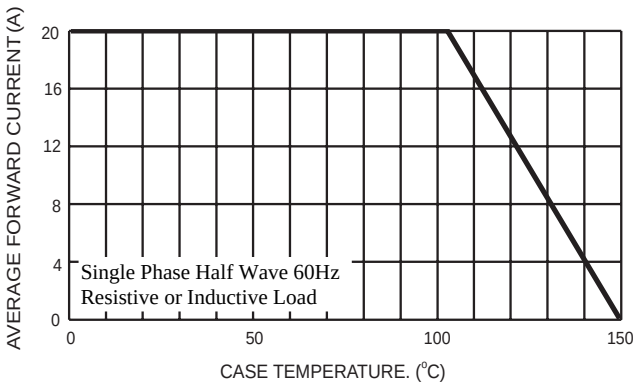


FIG.2- TYPICAL REVERSE CHARACTERISTICS

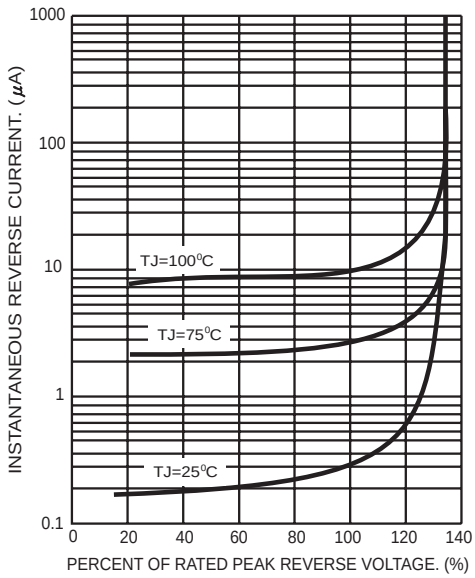


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

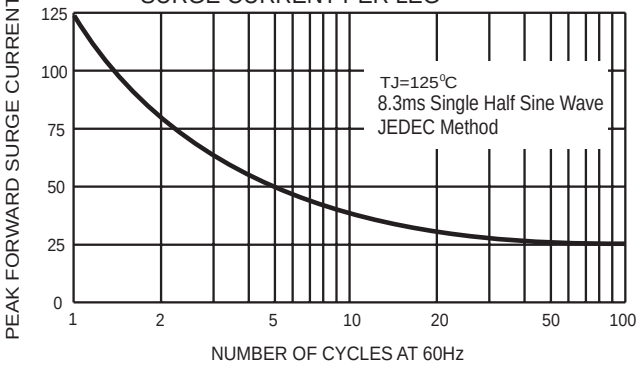


FIG.4- TYPICAL JUNCTION CAPACITANCE PER LEG

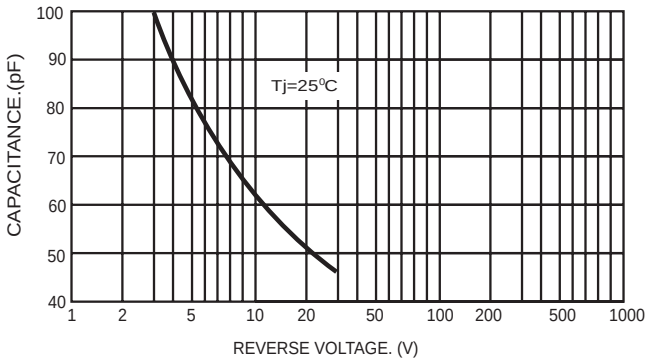


FIG.5- TYPICAL FORWARD CHARACTERISTICS PER LEG

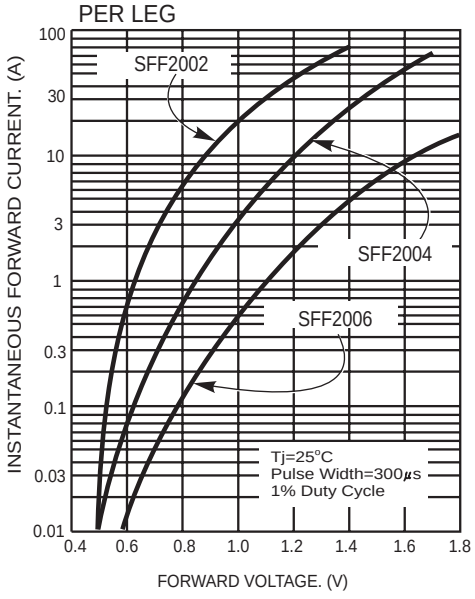
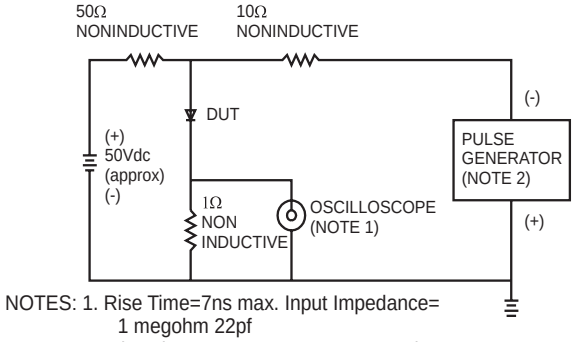
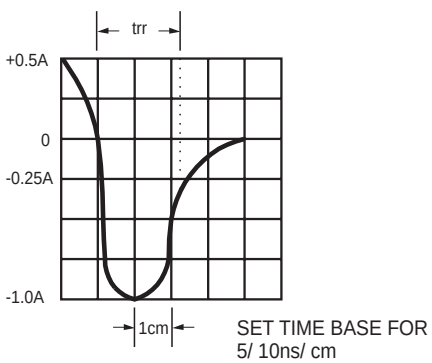


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

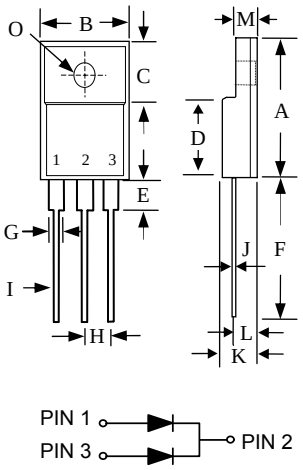


NOTES: 1. Rise Time=7ns max. Input Impedance= 1 megohm 22pf
2. Rise Time=10ns max. Sourse Impedance= 50 ohms



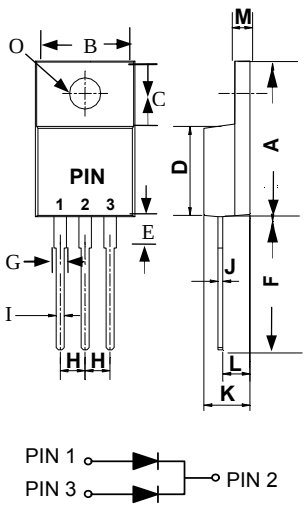
PACKAGE OUTLINE

ITO-220AB



ITO-220AB		
DIM.	MIN.	MAX.
A	14.90	15.90
B	9.90	10.40
C	6.45	6.95
D	8.05	8.85
E	2.90	3.90
F	12.8	——
G	1.10	1.4
H	2.35	2.55
I	0.45	0.95
J	0.40	0.65
K	4.35	4.80
L	2.45	2.85
M	2.50	2.85
O	∅3.00	∅3.50
All Dimensions in millimeter		

TO-220AB



TO-220AB		
DIM.	MIN.	MAX.
A	14.50	15.50
B	9.90	10.40
C	6.05	6.65
D	8.05	8.85
E	2.90	3.90
F	12.80	——
G	1.10	1.40
H	2.35	2.55
I	0.45	0.95
J	0.40	0.65
K	4.35	4.75
L	2.45	2.85
M	1.15	1.45
O	∅3.55	∅3.85
All Dimensions in millimeter		