



# SF2001PT THRU SF2008PT

## 20.0 AMPS. Glass Passivated Super Fast Rectifiers



Voltage Range  
50 to 600 Volts  
Current  
20.0 Amperes

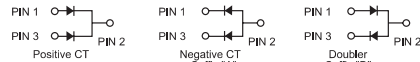
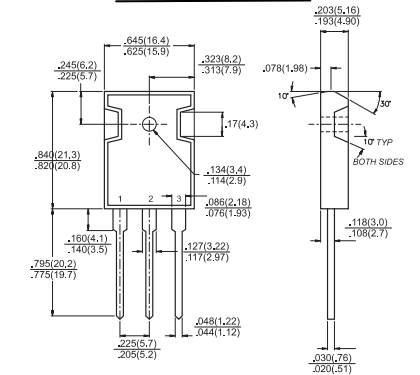
### Features

- ◇ Dual rectifier construction, positive center-tap
- ◇ Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- ◇ Glass passivated chip junctions
- ◇ Superfast recovery time, high voltage
- ◇ Low forward voltage, high current capability
- ◇ Low thermal resistance
- ◇ Low power loss, high efficiency
- ◇ High temperature soldering guaranteed:  
260°C / 10 seconds, 0.16" (4.06mm) lead lengths at 5 lbs., (2.3kg) tension

### Mechanical Data

- ◇ Cases: JEDEC TO-3P/TO-247AD molded plastic
- ◇ Terminals: Leads solderable per MIL-STD-750, Method 2026
- ◇ Polarity: As marked
- ◇ Mounting position: Any
- ◇ Weight: 0.2 ounce, 5.6 grams

### TO-3P/TO-247AD



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	SF	SF	SF	SF	SF	SF	SF	Units	
		2001 PT	2002 PT	2003 PT	2004 PT	2005 PT	2006 PT	2007 PT	2008 PT		
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 at $T_c=100^\circ\text{C}$	$I_{(AV)}$	20								A	
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	280								A	
Maximum Instantaneous Forward Voltage @10.0A @20A	$V_F$	0.95			1.3			1.7 0.21		V	
Maximum D.C. Reverse Current at Rated DC Blocking Voltage @ $T_c=25^\circ\text{C}$ @ $T_c=100^\circ\text{C}$	$I_R$					10 400					$\mu\text{A}$
Maximum Reverse Recovery Time (Note 2) $T_J=25^\circ\text{C}$	$T_{rr}$					35				nS	
Typical Junction Capacitance (Note 1)	$C_j$					175				pF	
Typical Thermal Resistance (Note 3)	$R_{\theta JC}$					2.5				$^\circ\text{C/W}$	
Operating Junction Temperature Range	$T_J$					-55 to +150				$^\circ\text{C}$	
Storage Temperature Range	$T_{STG}$					-55 to +150				$^\circ\text{C}$	

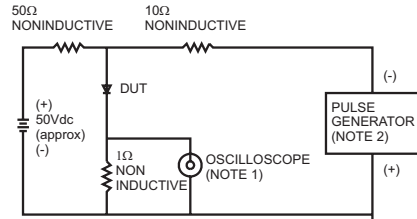
Notes: 1. Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

2. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ , Recover to 0.25A.

3. Thermal Resistance from Junction to Case Mounted on Heatsink size 3"x5"x0.25" Al-Plate.

## RATINGS AND CHARACTERISTIC CURVES (SF2001PT THRU SF2008PT)

FIG. 1- 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

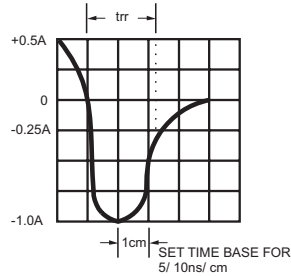


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

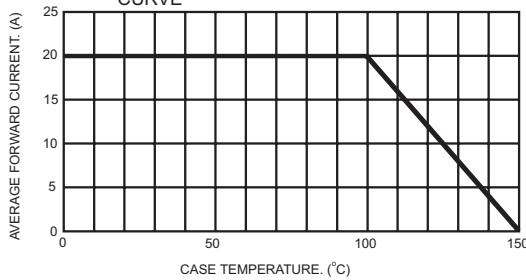


FIG.3- TYPICAL REVERSE CHARACTERISTICS PER LEG

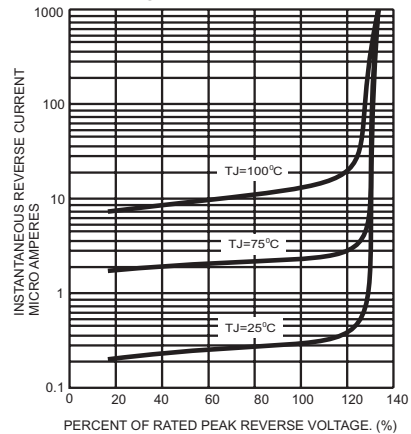


FIG.4- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

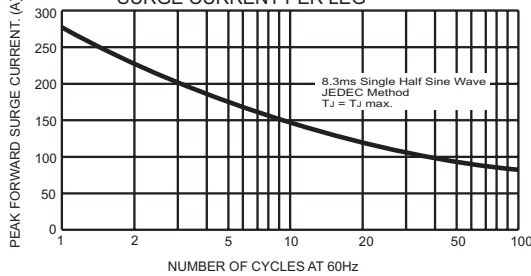


FIG.6- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

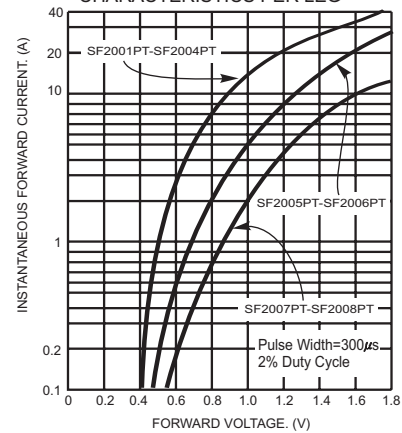


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

