

Pb Free Plating Product

SFF2001GD thru SFF2008GD



20.0 Amperes Insulated Dual Doubler Polarity Super Fast Recovery Rectifiers

**Features**

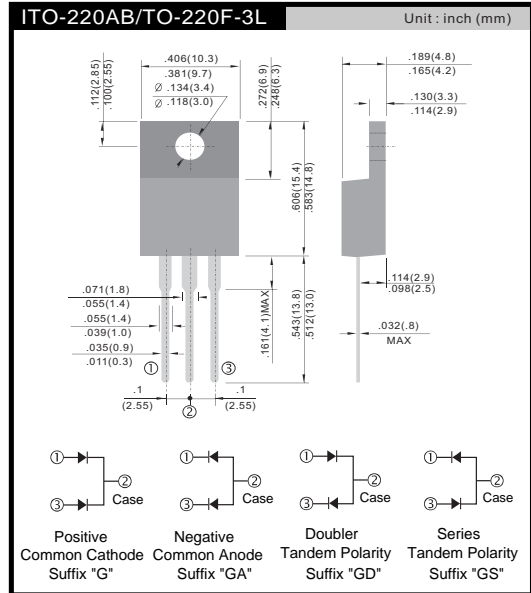
- \* Super fast switching for high efficiency
- \* Low forward voltage drop
- \* High current capability
- \* Low reverse leakage current
- \* High surge current capability

**Application**

- \* Automotive Inverters and Solar Inverters
- \* Plating Power Supply, SMPS and UPS
- \* Car Audio Amplifiers and Sound Device Systems

**Mechanical Data**

- \* Case: ITO-220AB full plastic isolated package
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Solderable per MIL-STD-202 method 208
- \* Polarity: As marked on diode body
- \* Mounting position: Any
- \* Weight: 1.90 gram approximately



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

PARAMETER	SYMBOL	SFF 2001 GD	SFF 2002 GD	SFF 2003 GD	SFF 2004 GD	SFF 2005 GD	SFF 2006 GD	SFF 2007 GD	SFF 2008 GD	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	20								A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	150								A
Maximum instantaneous forward voltage (Note 1) @ 10 A	V <sub>F</sub>	0.975			1.3		1.7			V
Maximum reverse current @ rated V <sub>R</sub> T <sub>J</sub> =25°C T <sub>J</sub> =125°C	I <sub>R</sub>					10				μA
						400				
Maximum reverse recovery time (Note 2)	t <sub>rr</sub>					35				ns
Typical junction capacitance (Note 3)	C <sub>J</sub>					90				pF
Typical thermal resistance	R <sub>θJC</sub>					2.5				°C/W
Operating junction temperature range	T <sub>J</sub>					- 55 to +150				°C
Storage temperature range	T <sub>STG</sub>					- 55 to +150				°C

Note 1: Pulse test with PW=300μs, 1% duty cycle  
 Note 2: Test conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A.  
 Note 3: Measured at 1 MHz and applied reverse voltage of 4.0 V DC.

RATINGS AND CHARACTERISTICS CURVES

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

FIG. 1 FORWARD CURRENT DERATING CURVE

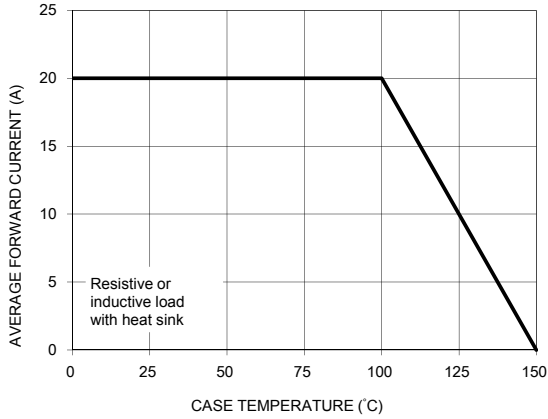


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

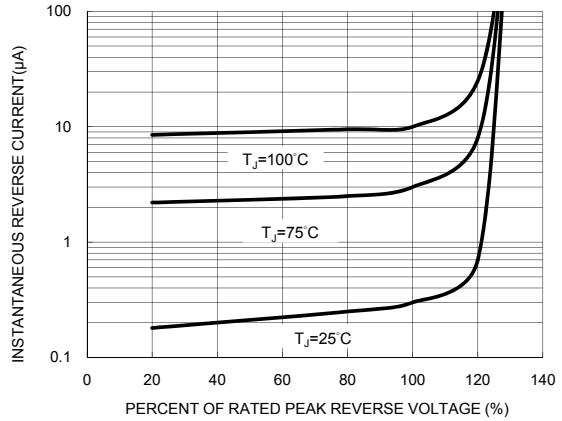


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

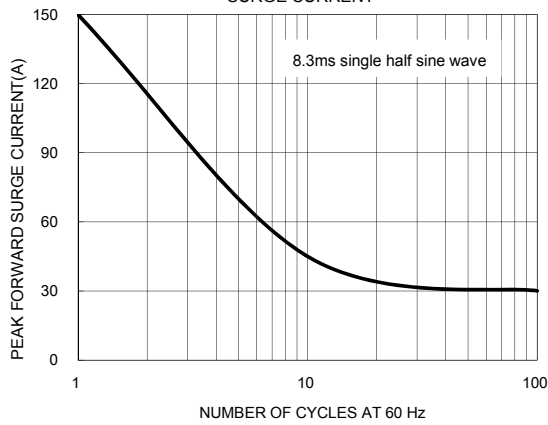


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

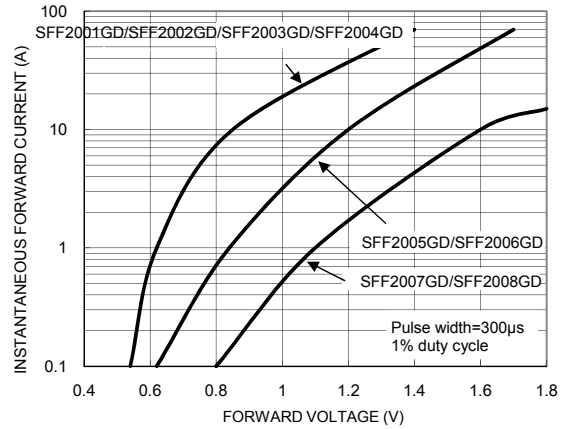


FIG. 5 TYPICAL JUNCTION CAPACITANCE

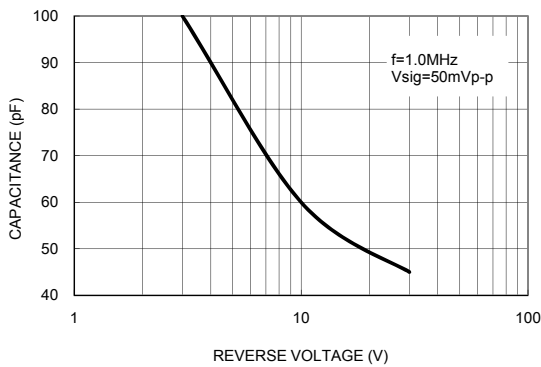


FIG. 6 REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

