Pb Free Plating Product

# SFF1001GD thru SFF1008GD

10.0 Ampere Insulated 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

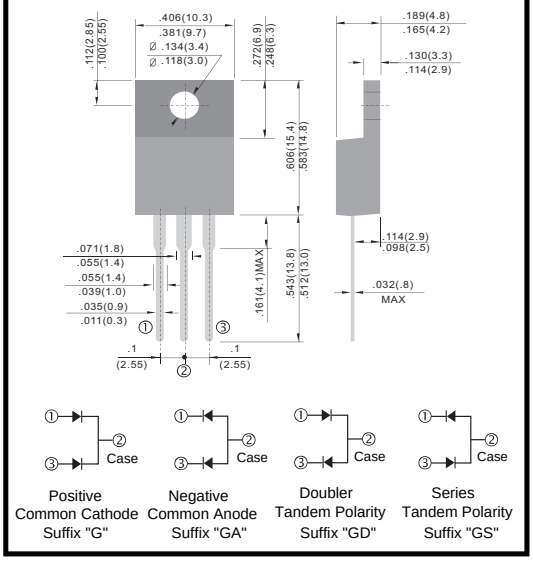
Application

- ✶ 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: 1.95 gram approximately

**ITO-220AB** Unit : inch (mm)




| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A$=25°C unless otherwise noted) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| PARAMETER | SYMBOL | SFF 1001 GD | SFF 1002 GD | SFF 1003 GD | SFF 1004 GD | SFF 1005 GD | SFF 1006 GD | SFF 1007 GD | SFF 1008 GD | UNIT |
| Maximum repetitive 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 | $I_{F(AV)}$ | 10 | | | | | | | | A |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load | $I_{FSM}$ | 125 | | | | | | | | A |
| Maximum instantaneous forward voltage (Note 1) $I_F$ = 5A | $V_F$ | 0.975 | | | | 1.3 | | 1.7 | | V |
| Maximum reverse current @ rated $V_R$ $T_J$=25°C | $I_R$ | 10 | | | | | | | | μA |
| $T_J$=125°C | | 400 | | | | | | | | |
| Maximum reverse recovery time (Note 2) | $t_{rr}$ | 35 | | | | | | | | ns |
| Typical junction capacitance (Note 3) | $C_J$ | 70 | | | | 50 | | | | pF |
| Typical thermal resistance | $R_{\theta JC}$ | 8 | | | | | | | | °C/W |
| Operating junction temperature range | $T_J$ | - 55 to +150 | | | | | | | | °C |
| Storage temperature range | $T_{STG}$ | - 55 to +150 | | | | | | | | °C |

Note 1: Pulse Test with PW=300μs, 1% Duty Cycle

Note 2: Reverse Recovery Test Conditions: $I_F$=0.5A, $I_R$=1.0A, $I_{RR}$=0.25A.

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V DC.

## RATINGS AND CHARACTERISTICS CURVES

($T_A$=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

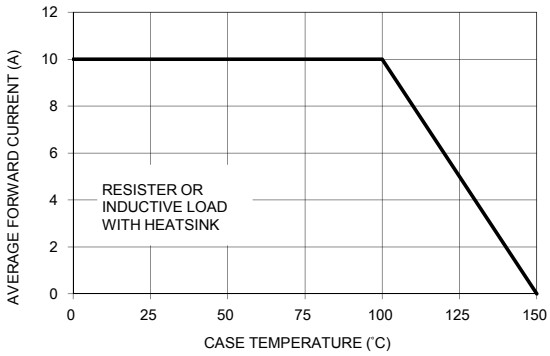



FIG. 2 TYPICAL REVERSE CHARACTERISTICS

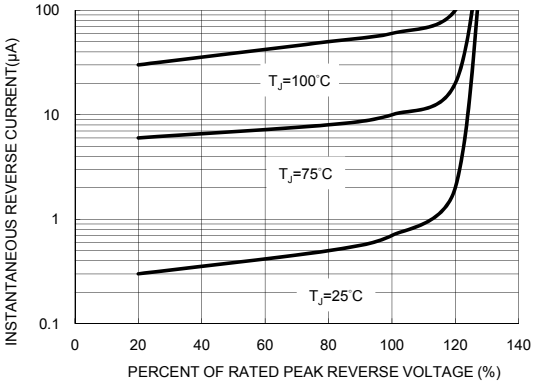



FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

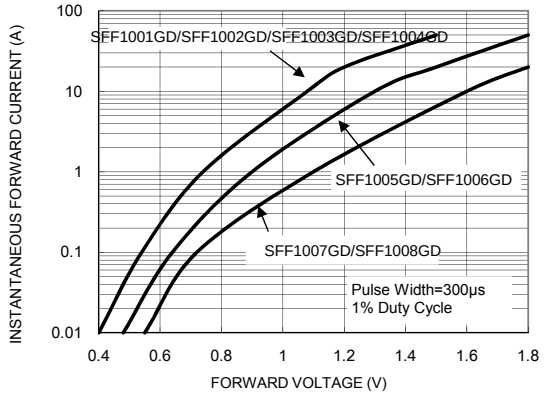



FIG. 5 TYPICAL JUNCTION CAPACITANCE

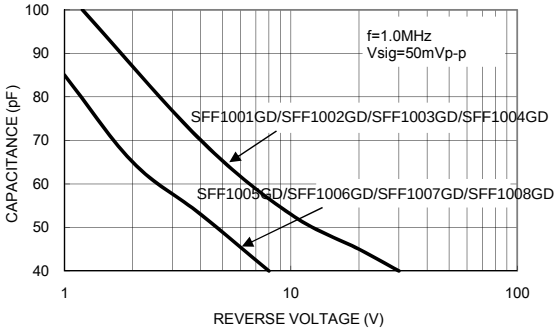



FIG.6 REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM