



# HERF1001G - HERF1008G

## 10.0AMPS. Isolated Glass Passivated High Efficient Rectifiers

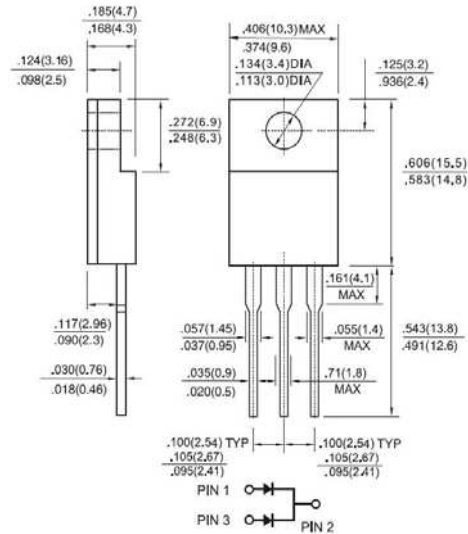
### ITO-220AB

### Features

- ✧ UL Recognized File # E-326243
- ✧ Glass passivated chip junction
- ✧ High efficiency, Low VF
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability
- ✧ For use in low voltage, high frequency inverter, free wheeling, and polarity protection application
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode

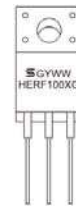
### Mechanical Data

- ✧ Case: ITO-220AB Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Terminals: Pure tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: As marked
- ✧ High temperature soldering guaranteed: 260 °C / 10s / 0.25", (6.35mm) from case
- ✧ Mounting torque: 5 in-lbs. max
- ✧ Weight: 2.24 grams



### Dimensions in inches and (millimeters)

#### Marking Diagram



- HERF100XG = Specific Device Code
- G = Green Compound
- Y = Year
- WW = Work Week

### 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          | HERF 1001G    | HERF 1002G | HERF 1003G | HERF 1004G | HERF 1005G | HERF 1006G | HERF 1007G | HERF 1008G | Unit                      |
|--|-----------------|---------------|------------|------------|------------|------------|------------|------------|------------|---------------------------|
| Maximum Repetitive Peak Reverse Voltage  | $V_{RRM}$       | 50            | 100        | 200        | 300        | 400        | 600        | 800        | 1000       | V                         |
| Maximum RMS Voltage  | $V_{RMS}$       | 35            | 70         | 140        | 210        | 280        | 420        | 560        | 700        | V                         |
| Maximum DC Blocking Voltage  | $V_{DC}$        | 50            | 100        | 200        | 300        | 400        | 600        | 800        | 1000       | V                         |
| Maximum Average Forward Rectified Current @ $T_C=100^\circ\text{C}$                                | $I_{F(AV)}$     | 10.0          |            |            |            |            |            |            |            | 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 (Note 1) @ 5.0A  | $V_F$           | 1.0           |            |            | 1.3        |            | 1.7        |            |            | V                         |
| Maximum Reverse Current @ Rated VR $T_A=25^\circ\text{C}$<br>$T_A=125^\circ\text{C}$               | $I_R$           | 10            |            |            |            | 400        |            |            |            | uA                        |
| Maximum Reverse Recovery Time (Note 2)   | $T_{rr}$        | 50            |            |            |            | 80         |            |            |            | nS                        |
| Typical Junction Capacitance (Note 3)  | $C_j$           | 60            |            |            |            | 40         |            |            |            | pF                        |
| Typical Thermal Resistance   | $R_{\theta JC}$ | 3             |            |            |            |            |            |            |            | $^\circ\text{C}/\text{W}$ |
| Operating Temperature Range  | $T_J$           | - 65 to + 150 |            |            |            |            |            |            |            | $^\circ\text{C}$          |
| Storage Temperature Range  | $T_{STG}$       | - 65 to + 150 |            |            |            |            |            |            |            | $^\circ\text{C}$          |

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

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

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

RATINGS AND CHARACTERISTIC CURVES (HERF1001G THRU HERF1008G)

FIG.1 FORWARD CURRENT DERATING CURVE

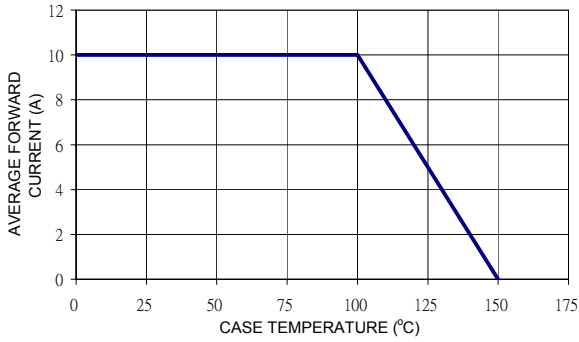


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

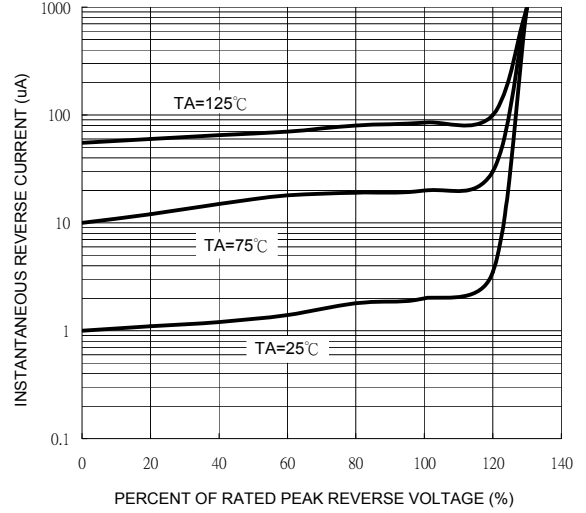


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

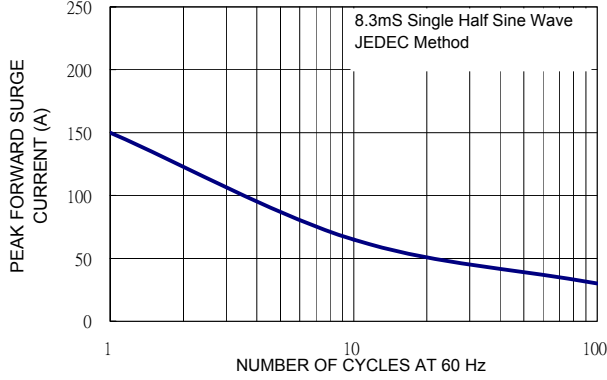


FIG. 5 TYPICAL FORWARD CHARACTERISTICS

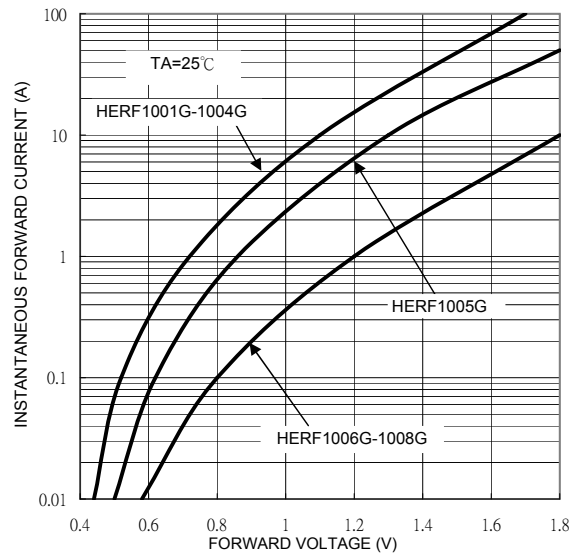


FIG. 4 TYPICAL JUNCTION CAPACITANCE

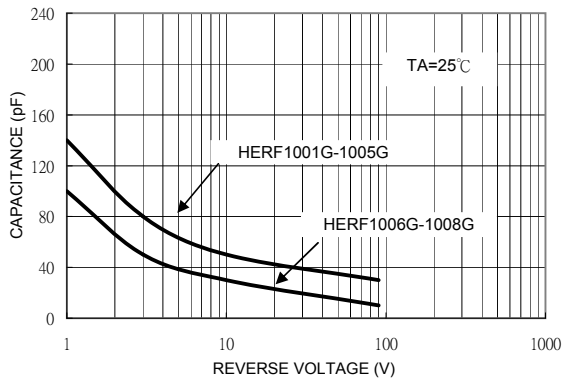


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

