



## HERF1001G - HERF1008G

### 10.0AMPS. Isolated Glass Passivated High Efficient Rectifiers

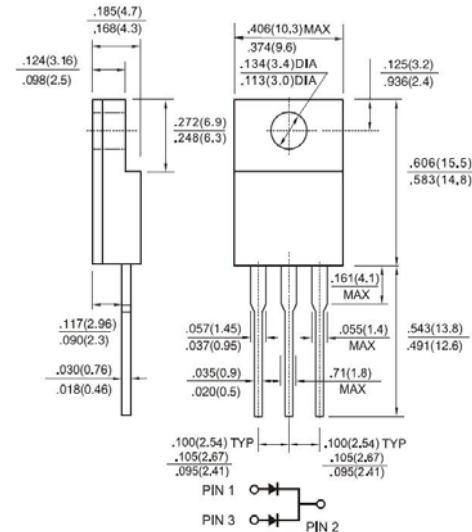
#### ITO-220AB

#### 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

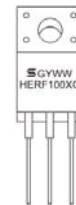
#### Mechanical Data

- ◇ 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<br>1001G | HERF<br>1002G | HERF<br>1003G | HERF<br>1004G | HERF<br>1005G | HERF<br>1006G | HERF<br>1007G | HERF<br>1008G | Unit |
|----------------------------------------------------------------------------------------------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|------|
| Maximum Repetitive Peak Reverse Voltage                                                            | V <sub>RRM</sub>   | 50            | 100           | 200           | 300           | 400           | 600           | 800           | 1000          | V    |
| Maximum RMS Voltage                                                                                | V <sub>RMS</sub>   | 35            | 70            | 140           | 210           | 280           | 420           | 560           | 700           | V    |
| Maximum DC Blocking Voltage                                                                        | V <sub>DC</sub>    | 50            | 100           | 200           | 300           | 400           | 600           | 800           | 1000          | V    |
| Maximum Average Forward Rectified Current<br>@ T <sub>C</sub> =100°C                               | I <sub>F(AV)</sub> | 10.0          |               |               |               |               |               |               |               | A    |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I <sub>FSM</sub>   | 125           |               |               |               |               |               |               |               | A    |
| Maximum Instantaneous Forward Voltage (Note 1)<br>@ 5.0A                                           | V <sub>F</sub>     | 1.0           |               |               |               | 1.3           | 1.7           |               |               | V    |
| Maximum Reverse Current @ Rated VR    T <sub>A</sub> =25 °C<br>T <sub>A</sub> =125 °C              | I <sub>R</sub>     | 10<br>400     |               |               |               |               |               |               |               | uA   |
| Maximum Reverse Recovery Time (Note 2)                                                             | T <sub>rr</sub>    | 50            |               |               |               |               | 80            |               |               | nS   |
| Typical Junction Capacitance (Note 3)                                                              | C <sub>j</sub>     | 60            |               |               |               |               | 40            |               |               | pF   |
| Typical Thermal Resistance                                                                         | R <sub>θJC</sub>   | 3             |               |               |               |               |               |               |               | °C/W |
| Operating Temperature Range                                                                        | T <sub>J</sub>     | - 65 to + 150 |               |               |               |               |               |               |               | °C   |
| Storage Temperature Range                                                                          | T <sub>STG</sub>   | - 65 to + 150 |               |               |               |               |               |               |               | °C   |

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

Note 2: Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $IRR=0.25A$

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

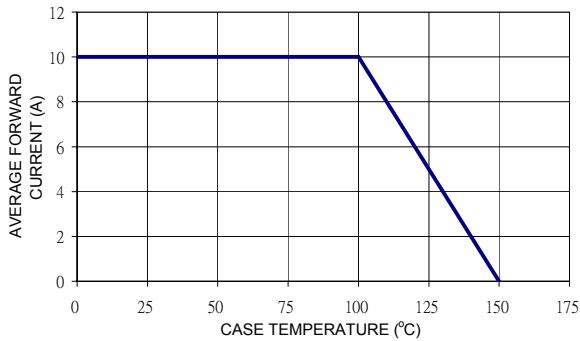


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

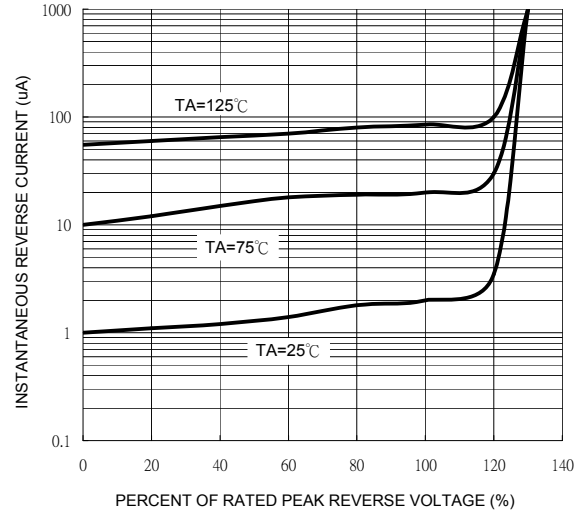


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

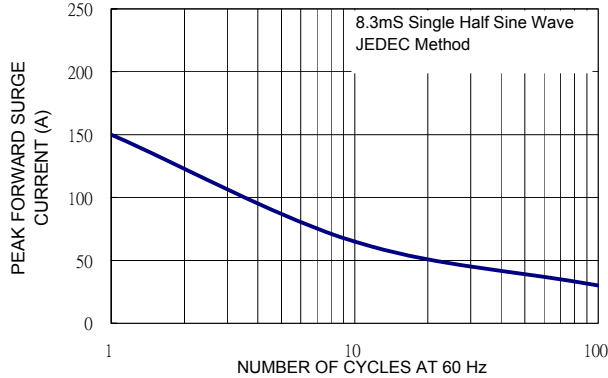


FIG. 5 TYPICAL FORWARD CHARACTERISTICS

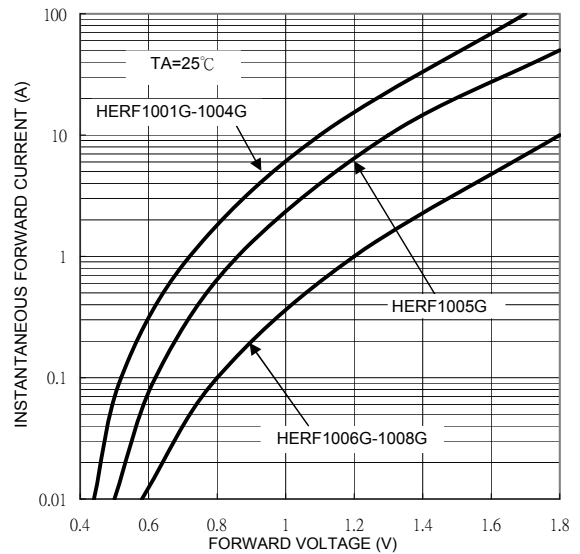


FIG. 4 TYPICAL JUNCTION CAPACITANCE

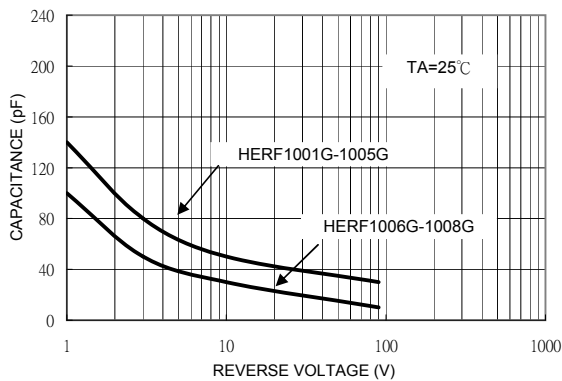


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

