

**HIGH EFFICIENCY**  
**GLASS PASSIVATED RECTIFIER**

**VOLTAGE RANGE 50 to 1000 Volts CURRENT 3.0 Ampere**

**FEATURES**

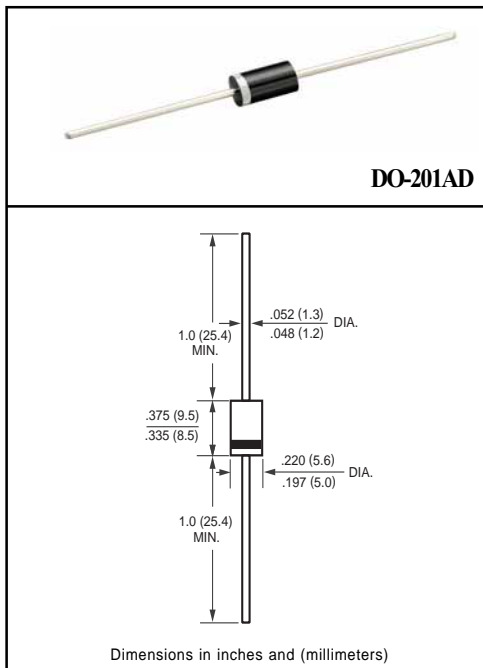
- \* Glass passivated junction
- \* Low power loss, high efficiency
- \* Low leakage
- \* Low forward voltage drop
- \* High current capability
- \* High speed switching
- \* High reliability
- \* High current surge

**MECHANICAL DATA**

- \* Case: Molded plastic
- \* Epoxy: Device has UL flammability classification 94V-O
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 1.20 grams

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings 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%.



**MAXIMUM RATINGS** (At TA = 25°C unless otherwise noted)

| RATINGS   | SYMBOL                            | HER301G      | HER302G | HER303G | HER304G | HER305G | HER306G | HER307G | HER308G | UNITS |      |
|---|-----------------------------------|--------------|---------|---------|---------|---------|---------|---------|---------|-------|------|
| Maximum Recurrent Peak Reverse Voltage  | V <sub>RRM</sub>                  | 50           | 100     | 200     | 300     | 400     | 600     | 800     | 1000    | Volts |      |
| Maximum RMS Voltage   | V <sub>RMS</sub>                  | 35           | 70      | 140     | 210     | 280     | 420     | 560     | 700     | Volts |      |
| Maximum DC Blocking Voltage   | V <sub>DC</sub>                   | 50           | 100     | 200     | 300     | 400     | 600     | 800     | 1000    | Volts |      |
| Maximum Average Forward Rectified Current at TA= 50°C   | I <sub>o</sub>                    | 3.0          |         |         |         |         |         |         |         | Amps  |      |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | I <sub>FSM</sub>                  | 200          |         |         |         |         | 150     |         |         |       | Amps |
| Typical Junction Capacitance (Note 2)   | C <sub>J</sub>                    | 70           |         |         |         |         | 50      |         |         |       | pF   |
| Operating and Storage Temperature Range   | T <sub>J</sub> , T <sub>STG</sub> | -55 to + 150 |         |         |         |         |         |         |         | °C    |      |

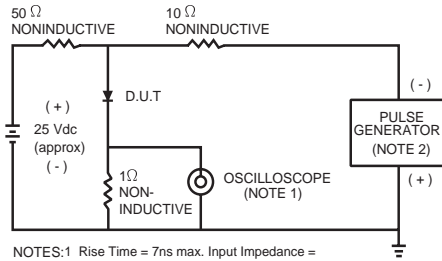
**ELECTRICAL CHARACTERISTICS** (At TA = 25°C unless otherwise noted)

| CHARACTERISTICS  | SYMBOL          | HER301G | HER302G | HER303G | HER304G | HER305G | HER306G | HER307G | HER308G | UNITS |       |
|--|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|-------|-------|
| Maximum Instantaneous Forward Voltage at 3.0A DC   | V <sub>F</sub>  | 1.0     |         |         | 1.3     |         | 1.7     |         |         | Volts |       |
| Maximum DC Reverse Current at Rated DC Blocking Voltage TA = 25°C                            | I <sub>R</sub>  | 10      |         |         |         |         | 150     |         |         |       | uAmps |
| Maximum Full Load Reverse Current Average, Full Cycle .375" (9.5mm) lead length at TL = 55°C |                 | 50      |         |         |         |         | 75      |         |         |       | nSec  |
| Maximum Reverse Recovery Time (Note 1)   | t <sub>rr</sub> | 50      |         |         |         |         | 75      |         |         |       | nSec  |

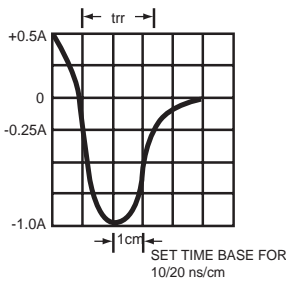
NOTES : 1. Test Conditions: I<sub>F</sub> = 0.5A, I<sub>R</sub> = -1.0A, I<sub>RR</sub> = -0.25A  
 2. Measured at 1 MHz and applied reverse voltage of 4.0 volts

# RATING AND CHARACTERISTIC CURVES ( HER301G THRU HER308G )

FIG. 1 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES: 1. Rise Time = 7ns max. Input Impedance = 1 megohm. 22pF.  
2. Rise Time = 10ns max. Source Impedance = 50 ohms.



AVERAGE FORWARD CURRENT, (A)

FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

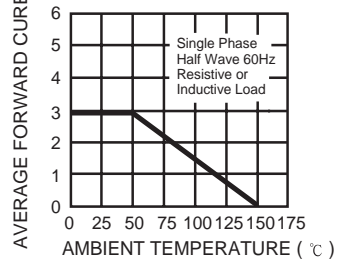


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

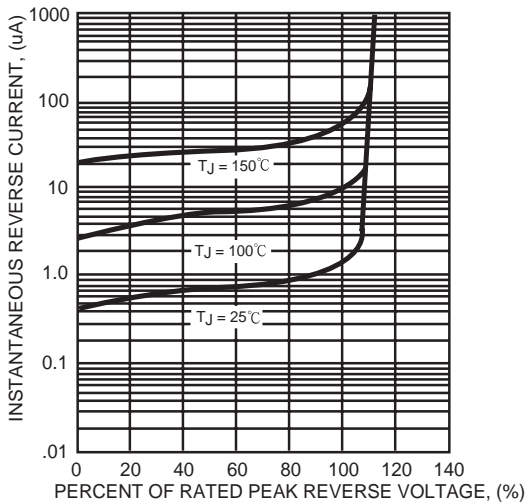


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

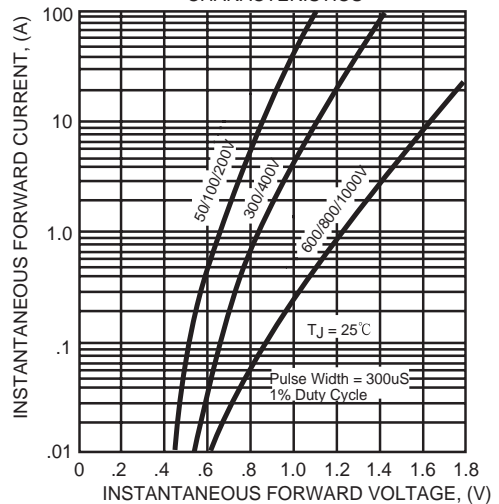


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

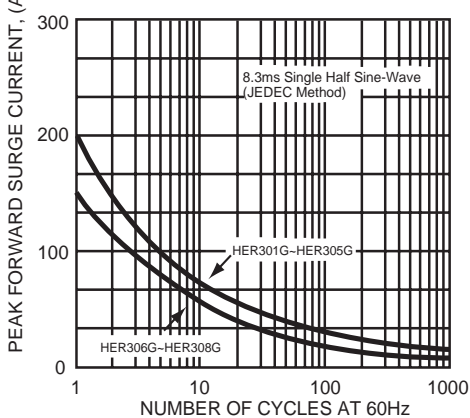


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

