



**DC COMPONENTS CO., LTD.**

RECTIFIER SPECIALISTS

**HER301  
THRU  
HER308**

**TECHNICAL SPECIFICATIONS OF HIGH EFFICIENCY RECTIFIER**

**VOLTAGE RANGE - 50 to 1000 Volts**

**CURRENT - 3.0 Amperes**

**FEATURES**

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

**MECHANICAL DATA**

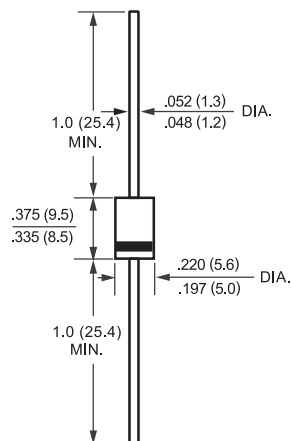
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: MIL-STD-202E, Method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 1.20 grams

**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%.



DO-27



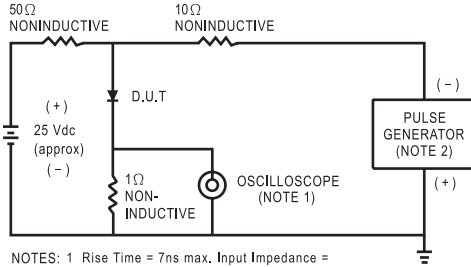
Dimensions in inches and (millimeters)

|   | SYMBOL                            | HER301       | HER302 | HER303 | HER304 | HER305 | HER306 | HER307 | HER308 | 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 T <sub>A</sub> = 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>                  | 150          |        |        |        |        |        |        |        | Amps  |
| 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 T <sub>A</sub> = 25°C                           | I <sub>R</sub>                    | 10           |        |        |        |        |        |        |        | uAmps |
| Maximum Full Load Reverse Current Average, Full Cycle .375*(9.5mm) lead length at T <sub>L</sub> = 55°C |                                   | 150          |        |        |        |        |        |        |        | uAmps |
| Maximum Reverse Recovery Time (Note 1)  | t <sub>rr</sub>                   | 50           |        |        |        | 75     |        |        |        | nSec  |
| 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> | -65 to + 150 |        |        |        |        |        |        |        | °C    |

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 (HER301 THRU HER308)

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.

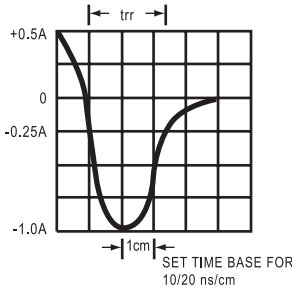


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

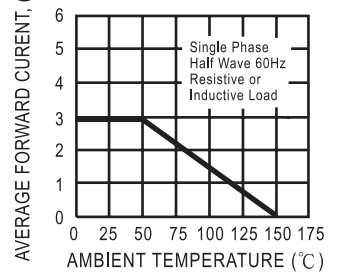


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

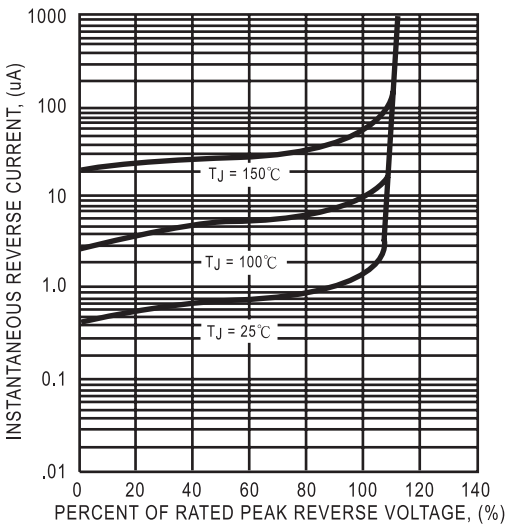


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

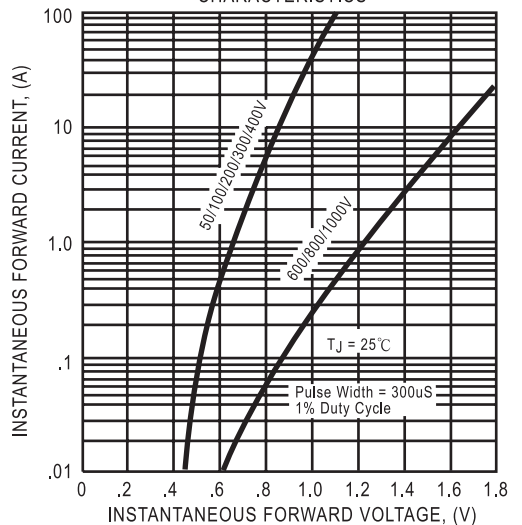


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

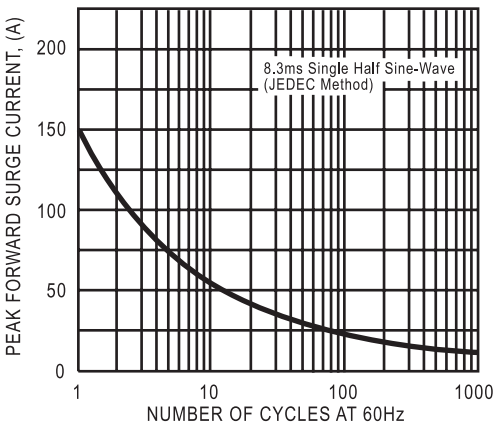
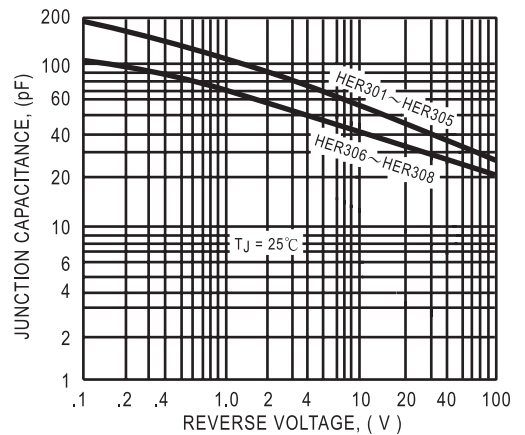


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



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