



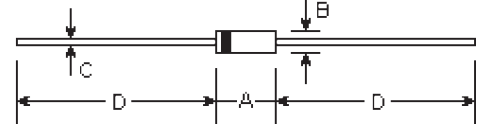
# HER101 THRU HER108

**HIGH EFFICIENCY RECTIFIER**  
**Reverse Voltage - 50 to 1000 Volts**  
**Forward Current - 1.0 Ampere**

## Features

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

## DO-41



## Mechanical Data

- **Case:** Molded plastic
- **Epoxy:** UL94V-0 rate flame retardant
- **Lead:** MIL-STD-202E method 208C guaranteed
- **Mounting Position:** Any
- **Weight:** 0.012 ounce, 0.33 gram

| DIMENSIONS |        |       |       |      |      |
|------------|--------|-------|-------|------|------|
| DIM        | inches |       | mm    |      | Note |
|            | Min.   | Max.  | Min.  | Max. |      |
| A          | 0.165  | 0.205 | 4.2   | 5.2  |      |
| B          | 0.079  | 0.106 | 2.0   | 2.7  | φ    |
| C          | 0.028  | 0.034 | 0.71  | 0.86 | φ    |
| D          | 1.000  | -     | 25.40 | -    |      |

## Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

|                                                                                                                     | Symbols                           | HER 101     | HER 102 | HER 103 | HER 104 | HER 105 | HER 106 | HER 107 | HER 108 | Units |
|---------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------|---------|---------|---------|---------|---------|---------|---------|-------|
| Maximum repetitive 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<br>0.375" (9.5mm) lead length at T <sub>A</sub> =50°C                     | I <sub>(AV)</sub>                 | 1.0         |         |         |         |         |         |         |         | Amp   |
| Peak forward surge current,<br>8.3mS single half sine-wave superimposed<br>on rated load (MIL-STD-750D 4066 method) | I <sub>FSM</sub>                  | 30.0        |         |         |         |         |         |         |         | Amps  |
| Maximum instantaneous forward voltage at 1.0A DC                                                                    | V <sub>F</sub>                    | 1.0         |         |         | 1.3     |         | 1.5     | 1.7     |         | Volts |
| Maximum full load reverse current average, full cycle<br>0.375" (9.5mm) lead length at T <sub>L</sub> =55°C         | I <sub>R(AV)</sub>                | 100.0       |         |         |         |         |         |         |         | μ A   |
| Maximum DC reverse current<br>at rated DC blocking voltage T <sub>A</sub> =25°C                                     | I <sub>R</sub>                    | 5.0         |         |         |         |         |         |         |         | μ A   |
| Maximum reverse recovery time (Note 1)                                                                              | T <sub>rr</sub>                   | 50          |         |         |         |         | 75      |         |         | nS    |
| Typical junction capacitance (Note 2)                                                                               | C <sub>J</sub>                    | 15          |         |         |         |         | 12      |         |         | μ F   |
| Operating and storage temperature range                                                                             | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150 |         |         |         |         |         |         |         | °C    |

Notes:

(1) Test conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$

(2) Measured at 1.0MHz and applied reverse voltage of 4.0 volts

## RATINGS AND CHARACTERISTIC CURVES

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

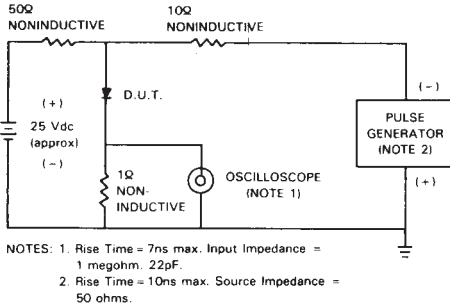


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

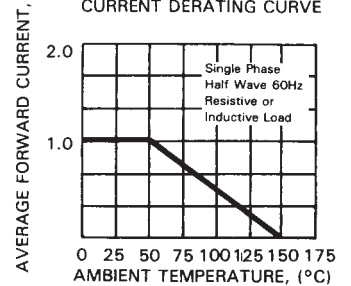


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

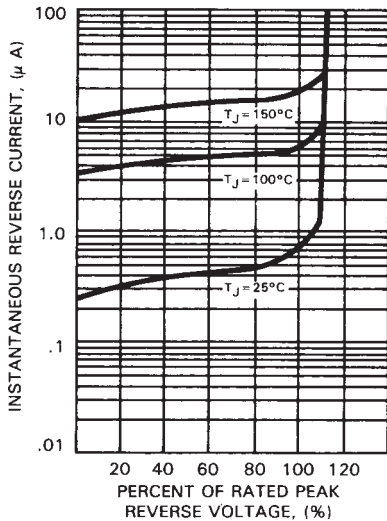


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

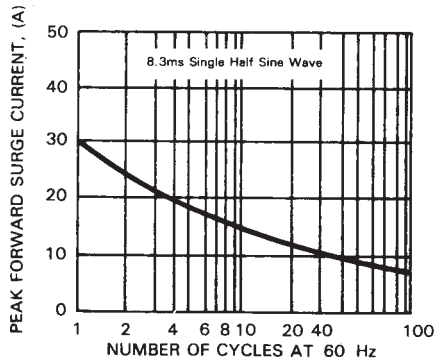


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

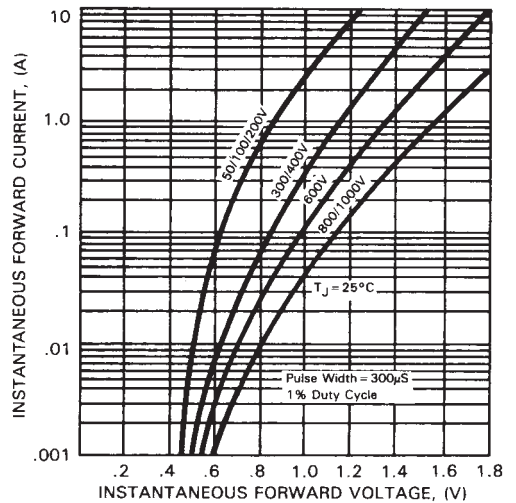


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

