

**HIGH EFFICIENCY RECTIFIER**

**VOLTAGE RANGE 50 to 1000 Volts CURRENT 5.0 Ampere**

**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**

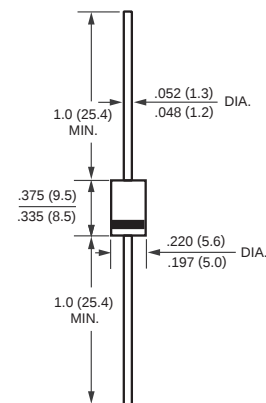
- \* Case: Molded plastic
- \* Epoxy: Device has UL flammability classification 94V-0
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 1.20 grams

**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%.



**DO-201AD**



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

| RATINGS                                                                                              | SYMBOL   | HER501       | HER502 | HER503 | HER504 | HER505 | HER506 | HER507 | HER508 | UNITS |
|------------------------------------------------------------------------------------------------------|----------|--------------|--------|--------|--------|--------|--------|--------|--------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                               | VRRM     | 50           | 100    | 200    | 300    | 400    | 600    | 800    | 1000   | Volts |
| Maximum RMS Voltage                                                                                  | VRMS     | 35           | 70     | 140    | 210    | 280    | 420    | 560    | 700    | Volts |
| Maximum DC Blocking Voltage                                                                          | VDC      | 50           | 100    | 200    | 300    | 400    | 600    | 800    | 1000   | Volts |
| Maximum Average Forward Rectified Current<br>at TA= 50°C                                             | Io       | 5.0          |        |        |        |        |        |        |        | Amps  |
| Peak Forward Surge Current 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | IFSM     | 200          |        |        |        |        | 150    |        |        | Amps  |
| Typical Junction Capacitance (Note 2)                                                                | CJ       | 70           |        |        |        |        | 50     |        |        | pF    |
| Operating and Storage Temperature Range                                                              | TJ, TSTG | -55 to + 150 |        |        |        |        |        |        |        | °C    |

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

| CHARACTERISTICS                                                                                             | SYMBOL         | HER501 | HER502 | HER503 | HER504 | HER505 | HER506 | HER507 | HER508 | UNITS |
|-------------------------------------------------------------------------------------------------------------|----------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| Maximum Instantaneous Forward Voltage at 5.0A DC                                                            | V <sub>F</sub> | 1.0    |        |        | 1.3    |        | 1.7    |        |        | Volts |
| Maximum DC Reverse Current<br>at Rated DC Blocking Voltage T <sub>A</sub> = 25°C                            | I <sub>R</sub> | 10     |        |        |        |        |        |        |        | uAmps |
| Maximum Full Load Reverse Current<br>Average, Full Cycle .375" (9.5mm) lead length at T <sub>L</sub> = 55°C |                | 150    |        |        |        |        |        |        |        | uAmps |
| Maximum Reverse Recovery Time (Note 1)                                                                      | trr            | 50     |        |        |        |        | 75     |        |        | nSec  |

NOTES : 1. Test Conditions: IF = 0.5A, IR = -1.0A, IRR = -0.25A  
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts

# RATING AND CHARACTERISTIC CURVES ( HER501 THRU HER508 )

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

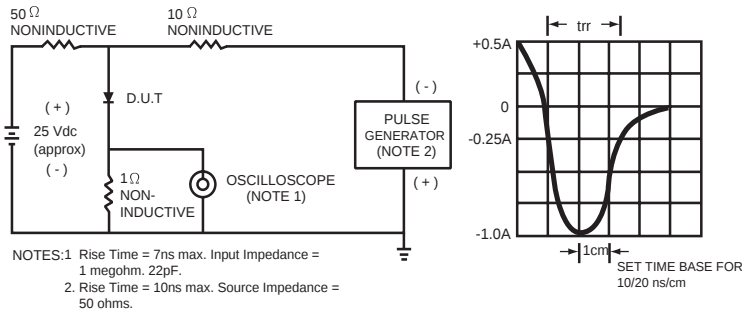


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

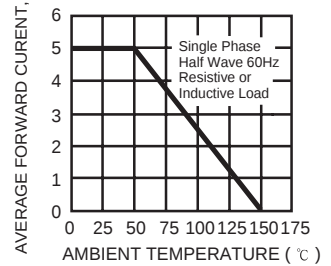


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

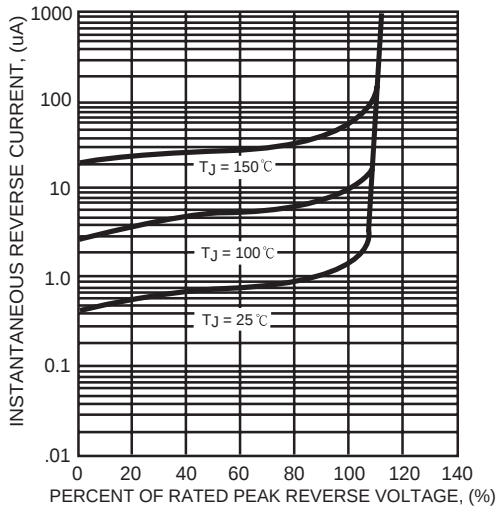


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

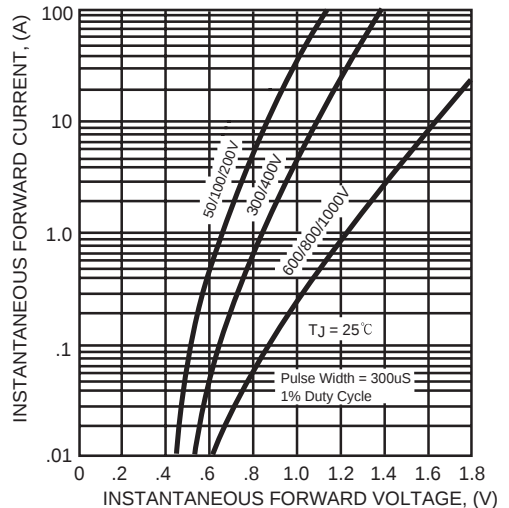


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

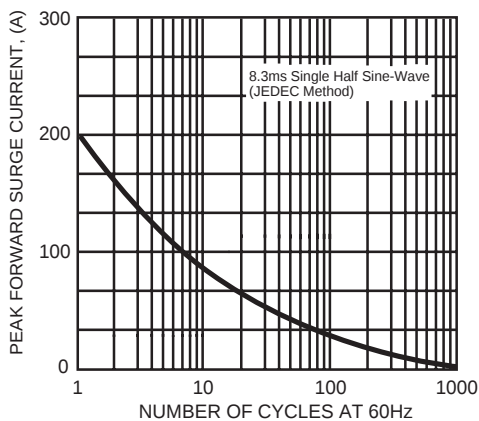


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

