

**HIGH EFFICIENCY RECTIFIER**

**VOLTAGE RANGE 50 to 400 Volts CURRENT 8.0 Amperes**

**FEATURES**

- \* Low switching noise
- \* Low forward voltage drop
- \* Low thermal resistance
- \* High current capability
- \* High fast switching capability
- \* High surge capability

**MECHANICAL DATA**

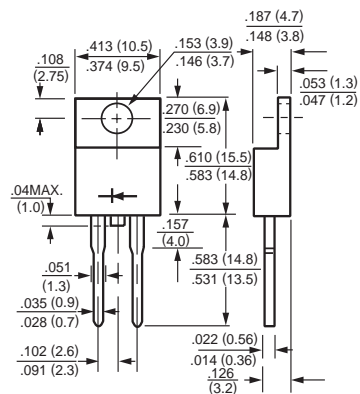
- \* Case: TO-220A molded plastic
- \* Epoxy: Device has UL flammability classification 94V-O
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 2.24 grams

**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%.



**TO-220A**



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

| RATINGS  | SYMBOL                            | HER801       | HER802 | HER803 | HER804 | HER805 | UNITS |
|--|-----------------------------------|--------------|--------|--------|--------|--------|-------|
| Maximum Recurrent Peak Reverse Voltage   | V <sub>RRM</sub>                  | 50           | 100    | 200    | 300    | 400    | Volts |
| Maximum RMS Voltage  | V <sub>RMS</sub>                  | 35           | 70     | 140    | 210    | 280    | Volts |
| Maximum DC Blocking Voltage  | V <sub>DC</sub>                   | 50           | 100    | 200    | 300    | 400    | Volts |
| Maximum Average Forward Rectified Current<br>at T <sub>c</sub> = 75°C                                | I <sub>O</sub>                    | 8.0          |        |        |        |        | Amps  |
| Peak Forward Surge Current 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | I <sub>FSM</sub>                  | 200          |        |        |        |        | Amps  |
| Typical Thermal Resistance   | R <sub>θJC</sub>                  | 2.5          |        |        |        |        | °C/W  |
| Typical Junction Capacitance (Note 2)  | C <sub>J</sub>                    | 40           |        |        |        |        | 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          | HER801 | HER802 | HER803 | HER804 | HER805 | UNITS |
|--|-----------------|--------|--------|--------|--------|--------|-------|
| Maximum Instantaneous Forward Voltage at 8.0A DC           | V <sub>F</sub>  | 1.0    |        |        | 1.3    |        | Volts |
| Maximum DC Reverse Current<br>at Rated DC Blocking Voltage | I <sub>R</sub>  | 10     |        |        | 150    |        | uAmps |
| Maximum Reverse Recovery Time (Note 1)                     | t <sub>rr</sub> | 50     |        |        |        |        | 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.  
 3. Suffix "R" for Reverse Polarity.

# RATING AND CHARACTERISTIC CURVES ( HER801 THRU HER805 )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

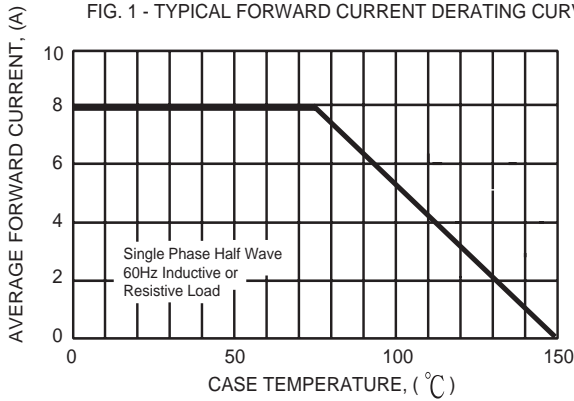


FIG. 2 - TYPICAL REVERSE CHARACTERISTICS

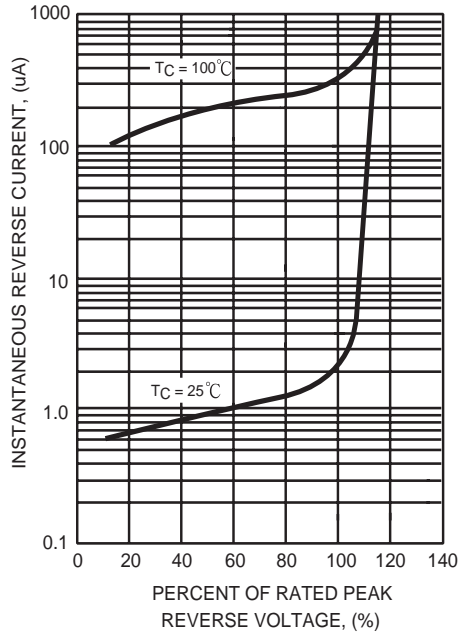


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

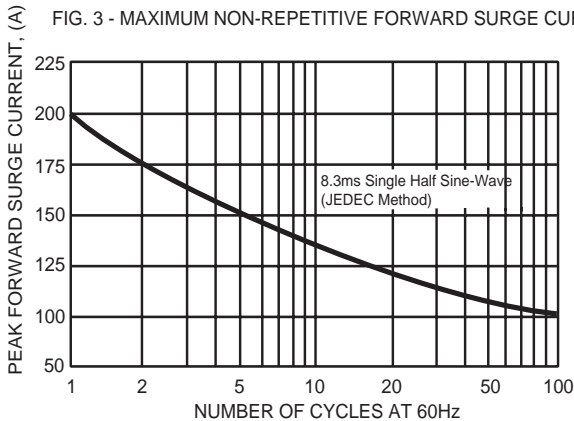


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

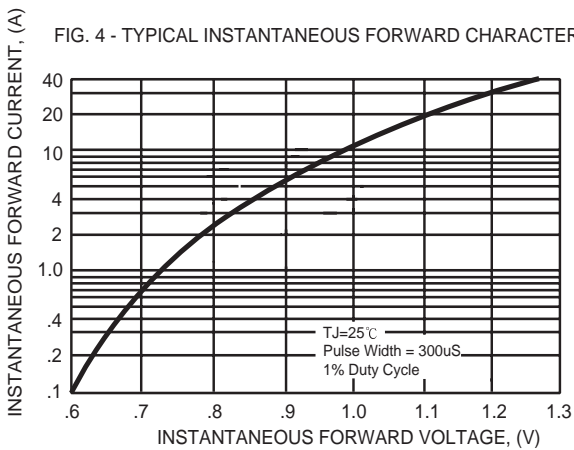
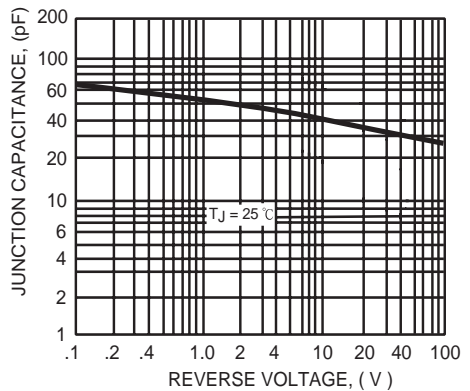


FIG. 5 - TYPICAL JUNCTION CAPACITANCE



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