

**HIGH EFFICIENCY RECTIFIER**

**VOLTAGE RANGE 50 to 400 Volts CURRENT 16.0 Amperes**

**FEATURES**

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

**MECHANICAL DATA**

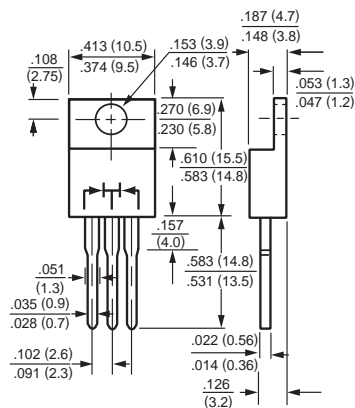
- \* Case: TO-220 molded plastic
- \* Epoxy: Device has UL flammability classification 94V-O
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 2.24 grams
- \* Polarity: As marked

**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-220**



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

| RATINGS  | SYMBOL   | HER1601C     | HER1602C | HER1603C | HER1604C | HER1605C | UNITS |
|--|----------|--------------|----------|----------|----------|----------|-------|
| Maximum Recurrent Peak Reverse Voltage   | VRRM     | 50           | 100      | 200      | 300      | 400      | Volts |
| Maximum RMS Voltage  | VRMS     | 35           | 70       | 140      | 210      | 280      | Volts |
| Maximum DC Blocking Voltage  | VDC      | 50           | 100      | 200      | 300      | 400      | Volts |
| Maximum Average Forward Rectified Current<br>at Tc = 75°C  | IO       | 16.0         |          |          |          |          | Amps  |
| Peak Forward Surge Current 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | IFSM     | 200          |          |          |          |          | Amps  |
| Typical Thermal Resistance   | RθJC     | 2.5          |          |          |          |          | °C/W  |
| Typical Junction Capacitance (Note 2)  | CJ       | 40           |          |          |          |          | pF    |
| Operating and Storage Temperature Range  | TJ, TSTG | -55 to + 150 |          |          |          |          | °C    |

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

| CHARACTERISTICS  | SYMBOL | HER1601C | HER1602C | HER1603C | HER1604C | HER1605C | UNITS |
|--|--------|----------|----------|----------|----------|----------|-------|
| Maximum Instantaneous Forward Voltage at 8.0A DC           | VF     | 1.0      |          |          | 1.3      |          | Volts |
| Maximum DC Reverse Current<br>at Rated DC Blocking Voltage | IR     | 10       |          |          | 150      |          | uAmps |
| Maximum Reverse Recovery Time (Note 1)                     | trr    | 50       |          |          |          |          | 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.  
3. Suffix "A" = Common Anode.

# RATING AND CHARACTERISTIC CURVES ( HER1601C THRU HER1605C )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

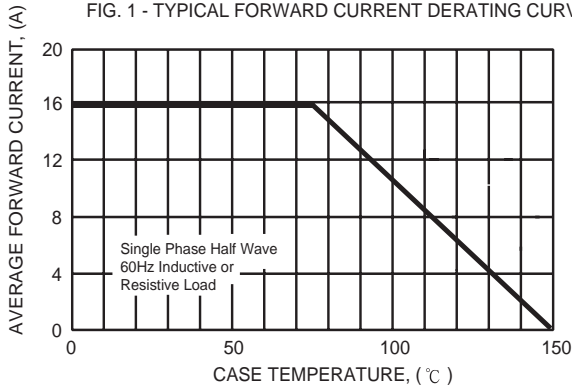


FIG. 2 - TYPICAL REVERSE CHARACTERISTICS

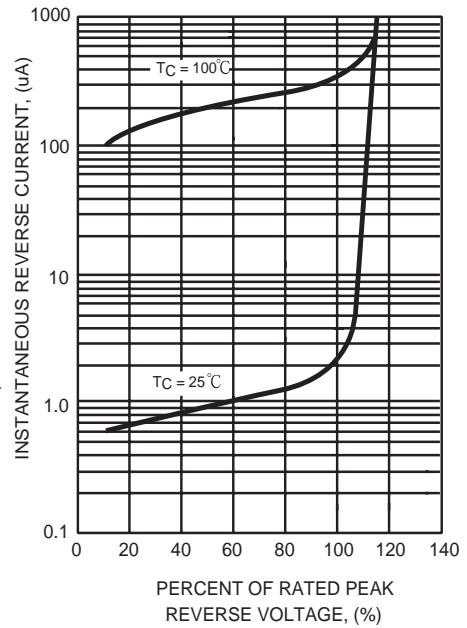


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

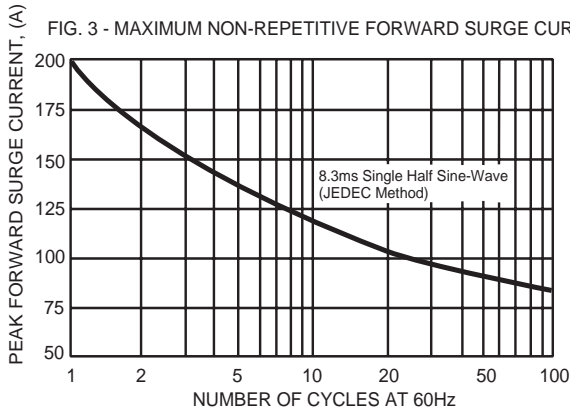


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

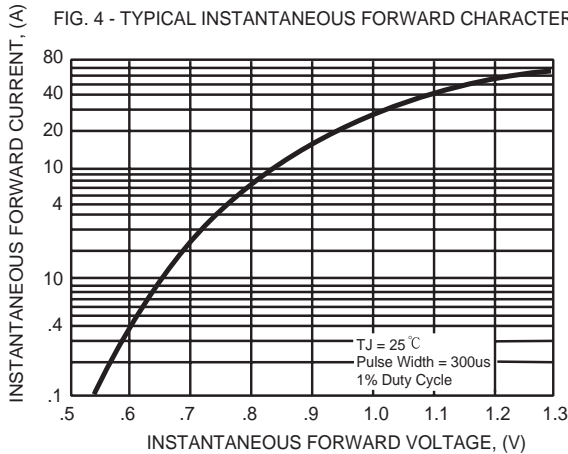


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

