

Pb Free Plating Product

HER1001N thru HER1008N



10Ampere Heat Sink Dual Common Anode High Efficiency Rectifiers

**Features**

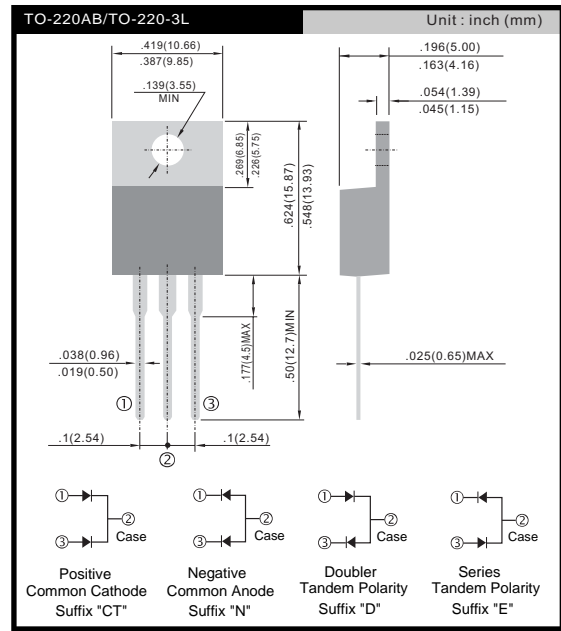
- \* Fast switching for high efficiency
- \* Low forward voltage drop
- \* High current capability
- \* Low reverse leakage current
- \* High surge current capability

**Application**

- \* Automotive Inverters and Solar Inverters
- \* Plating Power Supply, SMPS and UPS
- \* Car Audio Amplifiers and Sound Device Systems

**Mechanical Data**

- \* Case: Heatsink TO-220AB open metal package
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Solderable per MIL-STD-202 method 208
- \* Polarity: As marked on diode body
- \* Mounting position: Any
- \* Weight: 2.0 gram approximately



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

| PARAMETER   | SYMBOL             | HER 1001N    | HER 1002N | HER 1003N | HER 1004N | HER 1005N | HER 1006N | HER 1007N | HER 1008N | UNIT |      |
|---|--------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------|------|
| Maximum repetitive peak reverse voltage   | V <sub>RRM</sub>   | 50           | 100       | 200       | 300       | 400       | 600       | 800       | 1000      | V    |      |
| Maximum RMS voltage   | V <sub>RMS</sub>   | 35           | 70        | 140       | 210       | 280       | 420       | 560       | 700       | V    |      |
| Maximum DC blocking voltage   | V <sub>DC</sub>    | 50           | 100       | 200       | 300       | 400       | 600       | 800       | 1000      | V    |      |
| Maximum average forward rectified current   | I <sub>F(AV)</sub> | 10           |           |           |           |           |           |           |           |      | A    |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load | I <sub>FSM</sub>   | 125          |           |           |           |           |           |           |           |      | A    |
| Maximum instantaneous forward voltage @ 5 A (Note 1)                                | V <sub>F</sub>     | 1.0          |           |           | 1.3       |           | 1.7       |           |           | V    |      |
| Maximum reverse current @ rated V <sub>R</sub> T <sub>J</sub> =25°C                 | I <sub>R</sub>     | 10           |           |           |           |           |           |           |           |      | μA   |
| Maximum reverse current @ rated V <sub>R</sub> T <sub>J</sub> =125°C                | I <sub>R</sub>     | 400          |           |           |           |           |           |           |           |      | μA   |
| Maximum reverse recovery time (Note 2)  | t <sub>rr</sub>    | 50           |           |           |           |           | 80        |           |           |      | ns   |
| Typical junction capacitance (Note 3)   | C <sub>J</sub>     | 60           |           |           |           |           | 40        |           |           |      | pF   |
| Typical thermal resistance  | R <sub>θJC</sub>   | 1.5          |           |           |           |           |           |           |           |      | °C/W |
| Operating junction temperature range  | T <sub>J</sub>     | - 55 to +150 |           |           |           |           |           |           |           |      | °C   |
| Storage temperature range   | T <sub>STG</sub>   | - 55 to +150 |           |           |           |           |           |           |           |      | °C   |

Note 1: Pulse test with PW=300μs, 1% duty cycle  
 Note 2: Test conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A  
 Note 3: Measured at 1 MHz and applied reverse voltage of 4.0V DC.

RATINGS AND CHARACTERISTICS CURVES

( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

FIG. 1 MAXIMUM FORWARD CURRENT DERATING CURVE

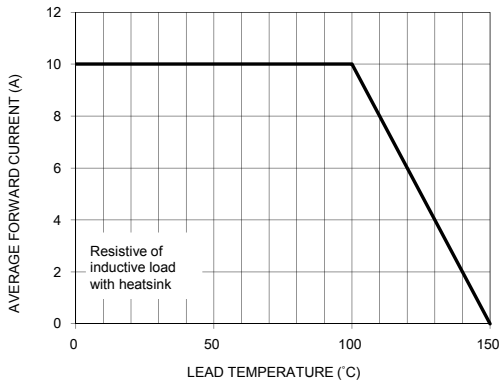


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

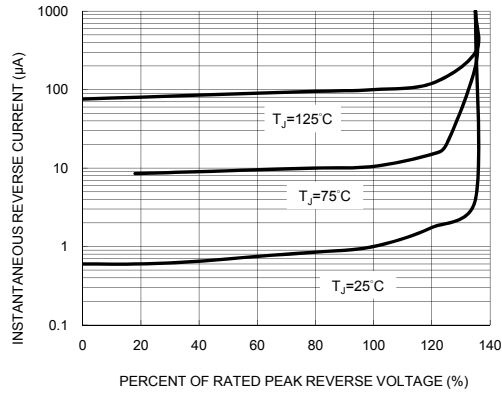


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

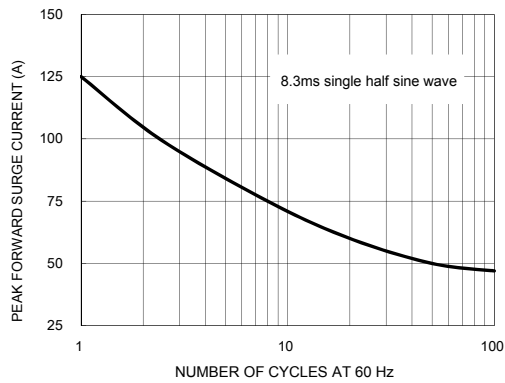


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

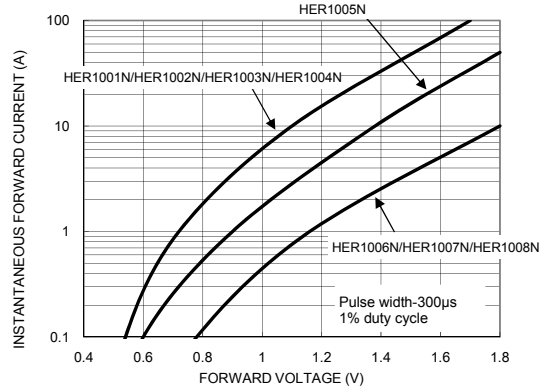


FIG. 5 TYPICAL JUNCTION CAPACITANCE

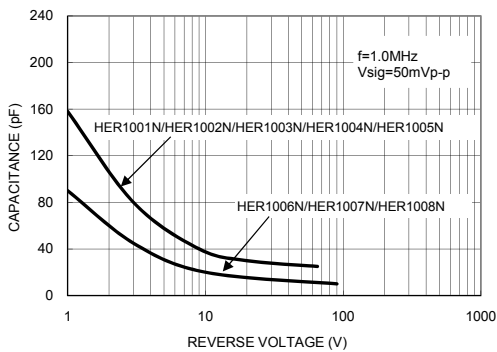


FIG.6 REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

