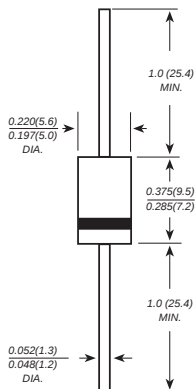


# HER301 THRU HER308

## HIGH EFFICIENCY RECTIFIERS

Reverse Voltage - 50 to 1000 Volts Forward Current - 3.0 Amperes

### DO-201AD



Dimensions in inches and (millimeters)

### FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ High switching for high efficiency
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed:  
260°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension

### MECHANICAL DATA

**Case:** JEDEC DO-201AD molded plastic body

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.04 ounce, 1.10 grams

### 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 current derate by 20%.

|                                                                                                        | SYMBOLS                          | HER 301      | HER 302 | HER 303 | HER 304 | HER 305 | HER 306 | HER 307 | HER 308 | 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 TA=50°C                      | I(AV)                            | 3.0          |         |         |         |         |         |         |         | Amps  |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on<br>rated load (JEDEC Method) | I <sub>FSM</sub>                 | 200.0        |         |         |         |         | 150.0   |         |         | Amps  |
| Maximum instantaneous forward voltage at 3.0A                                                          | V <sub>F</sub>                   | 1.0          |         |         | 1.3     |         | 1.70    |         |         | Volts |
| Maximum DC reverse current      TA=25°C<br>at rated DC blocking voltage      TA=100°C                  | I <sub>R</sub>                   | 5.0<br>150.0 |         |         |         |         |         |         |         | µA    |
| Maximum reverse recovery time      (NOTE 1)                                                            | t <sub>rr</sub>                  | 50           |         |         |         |         | 70      |         |         | ns    |
| Typical junction capacitance (NOTE 2)                                                                  | C <sub>J</sub>                   | 70.0         |         |         |         |         | 50      |         |         | pF    |
| Typical thermal resistance (NOTE 3)                                                                    | RθJA                             | 20.0         |         |         |         |         |         |         |         | °C/W  |
| Operating junction and storage temperature range                                                       | T <sub>J</sub> ,T <sub>STG</sub> | -65 to +150  |         |         |         |         |         |         |         | °C    |

**Note:** 1. Reverse recovery condition  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$

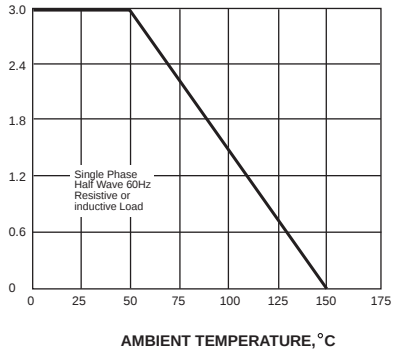
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

# RATINGS AND CHARACTERISTIC CURVES HER301 THRU HER308

AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT,  
AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

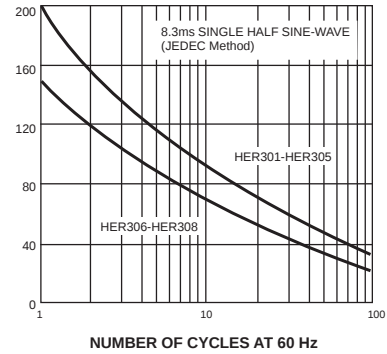
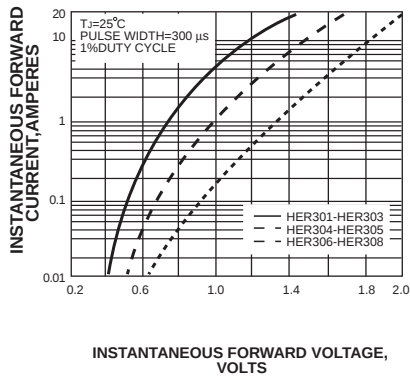


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT,  
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

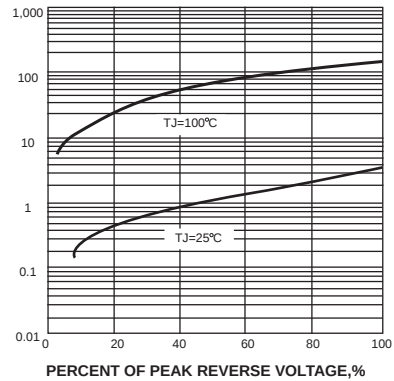
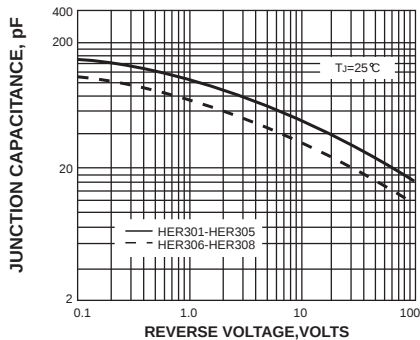


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

