

## HIGH EFFICIENCY RECTIFIERS

### Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ High speed switching for high efficiency
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

### Mechanical Data

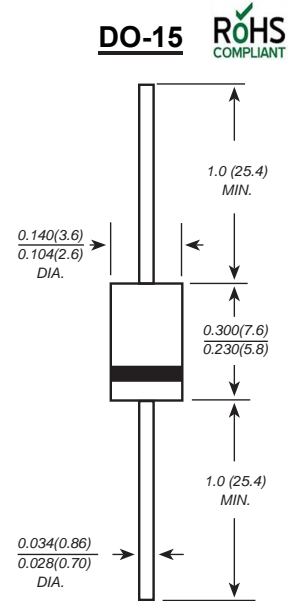
**Case** : JEDEC DO-15 Molded plastic body

**Terminals** : Solder plated, solderable per MIL-STD-750, Method 2026

**Polarity** : Polarity symbol marking on body

**Mounting Position** : Any

**Weight** : 0.014 ounce, 0.40 grams



Dimensions in inches and (millimeters)

### 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%.

| parameter   | SYMBOLS         | MDD          | MDD    | MDD    | MDD    | MDD    | MDD    | MDD    | MDD    | UNITS              |
|---|-----------------|--------------|--------|--------|--------|--------|--------|--------|--------|--------------------|
|   |                 | HER201       | HER202 | HER203 | HER204 | HER205 | HER206 | HER207 | HER208 |                    |
| Marking code  |                 |              |        |        |        |        |        |        |        |                    |
| Maximum repetitive peak reverse voltage   | $V_{RRM}$       | 50           | 100    | 200    | 300    | 400    | 600    | 800    | 1000   | V                  |
| Maximum RMS voltage   | $V_{RMS}$       | 35           | 70     | 140    | 210    | 280    | 420    | 560    | 700    | V                  |
| Maximum DC blocking voltage   | $V_{DC}$        | 50           | 100    | 200    | 300    | 400    | 600    | 800    | 1000   | V                  |
| Maximum average forward rectified current<br>0.375" (9.5mm) lead length at $T_A=50^\circ\text{C}$         | $I_{(AV)}$      | 2.0          |        |        |        |        |        |        |        | A                  |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on<br>rated load (JEDEC Method)    | $I_{FSM}$       | 60.0         |        |        |        |        |        |        |        | A                  |
| Maximum instantaneous forward voltage at 2.0A   | $V_F$           | 1.0          |        | 1.3    |        | 1.7    |        |        | V      |                    |
| Maximum DC reverse current $T_A=25^\circ\text{C}$<br>at rated DC blocking voltage $T_A=100^\circ\text{C}$ | $I_R$           | 5.0<br>100.0 |        |        |        |        |        |        |        | $\mu\text{A}$      |
| Maximum reverse recovery time (NOTE 1)  | $t_{rr}$        | 50           |        |        |        | 70     |        |        |        | ns                 |
| Typical junction capacitance (NOTE 2)   | $C_J$           | 30.0         |        |        |        | 20.0   |        |        |        | pF                 |
| Typical thermal resistance (NOTE 3)   | $R_{\theta JA}$ | 50.0         |        |        |        |        |        |        |        | $^\circ\text{C/W}$ |
| Operating junction and storage temperature range  | $T_J, T_{STG}$  | -65 to +150  |        |        |        |        |        |        |        | $^\circ\text{C}$   |

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

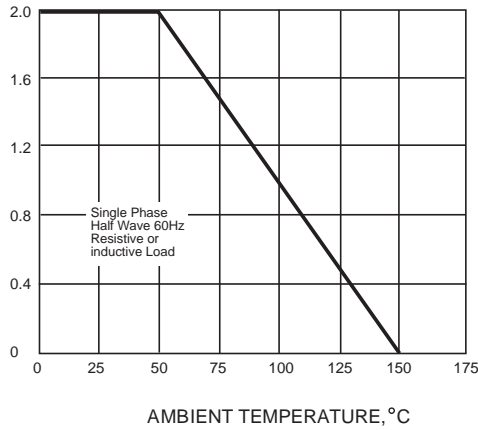
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

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

## Ratings And Characteristic Curves

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

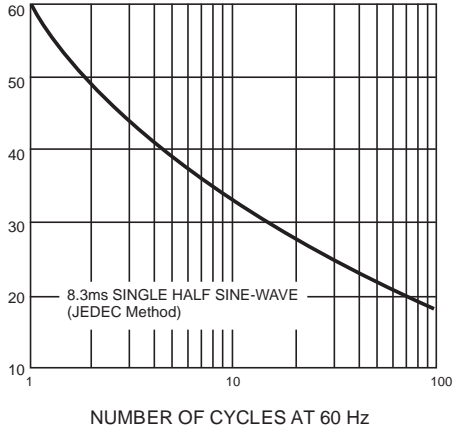


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

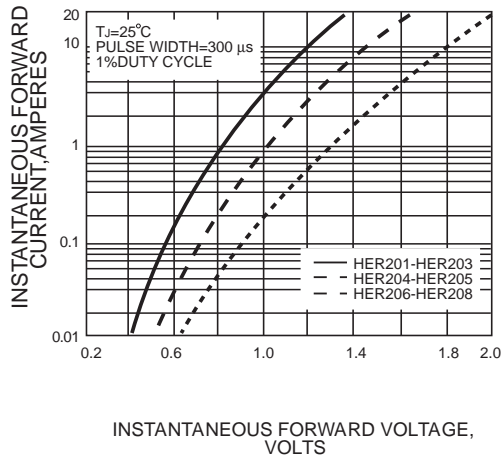


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

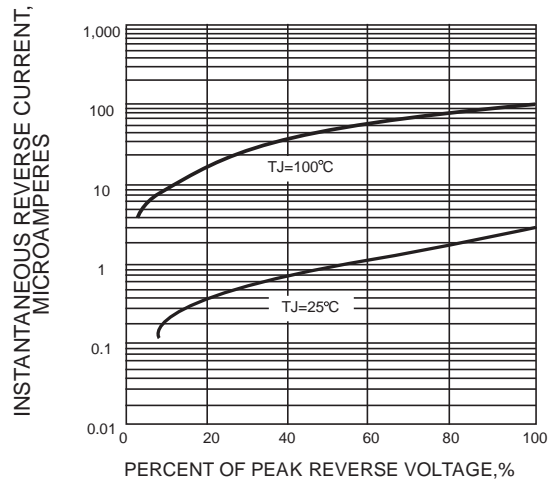
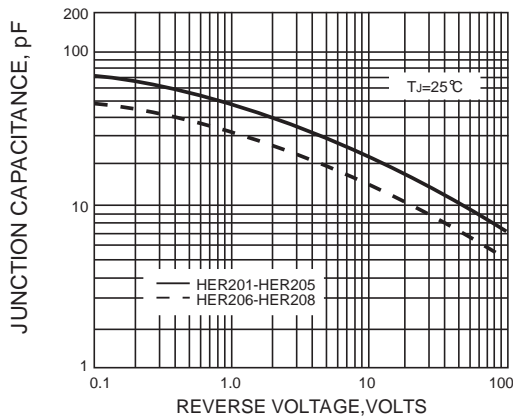
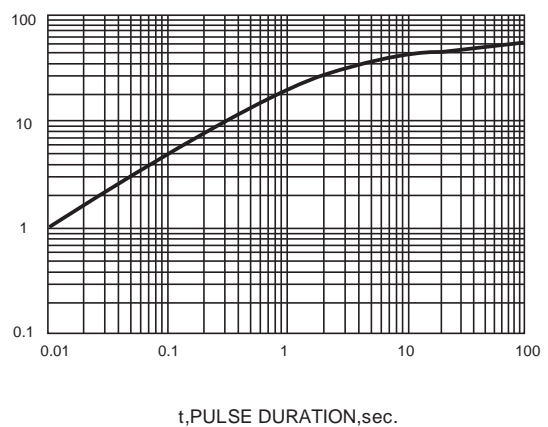


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.