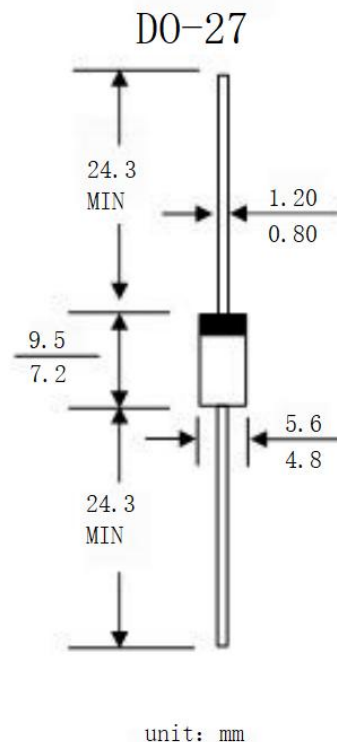


### Features

- 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  
5lbs. (2.3kg) tension

### Mechanical data

- Case: JEDEC DO-27 Molded plastic body
- Terminals: Plated axial leads, solderable to MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any



### 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                          | HER 301     | HER 302 | HER 303 | HER 304 | HER 305 | HER 306 | HER 307 | HER 308 | 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 .375"(9.5mm)<br>Lead length at T <sub>A</sub> =50 °C          | I <sub>F(AV)</sub>               | 3. 0        |         |         |         |         |         |         |         | A    |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load(JEDEC method)        | I <sub>FSM</sub>                 | 150         |         |         |         |         |         |         |         | A    |
| Maximum Forward Voltage at 3.0A                                                                         | V <sub>F</sub>                   | 1. 0        |         |         | 1. 3    |         | 1. 70   |         |         | V    |
| Maximum DC Reverse Current T <sub>A</sub> =25 °C<br>At Rated DC Blocking Voltage T <sub>A</sub> =100 °C | I <sub>R</sub>                   | 5. 0<br>150 |         |         |         |         |         |         |         | uA   |
| Maximum Reverse Recovery Time (Note 1)                                                                  | T <sub>rr</sub>                  | 50          |         |         |         |         | 75      |         |         | ns   |
| Typical Junction capacitance (Note 2)                                                                   | C <sub>J</sub>                   | 30. 0       |         |         |         |         | 20. 0   |         |         | pF   |
| Typical thermal resistance (Note 3)                                                                     | R <sub>θJA</sub>                 | 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 Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$

2. Measured at 1MHz and Applied Reverse Voltage of 4.0V D.C.

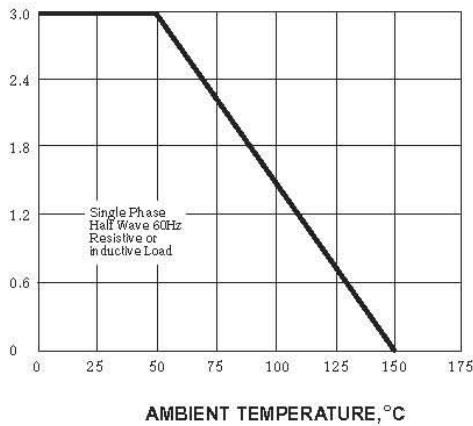
3. Thermal resistance from junction to ambient at 0.375"(9.5mm) lead length, P.C.B. mounted

### Ratings and Characteristic Curves

Ratings at 25°C ambient temperature unless otherwise specified

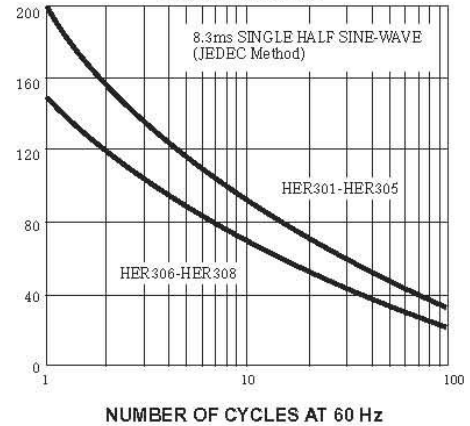
AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



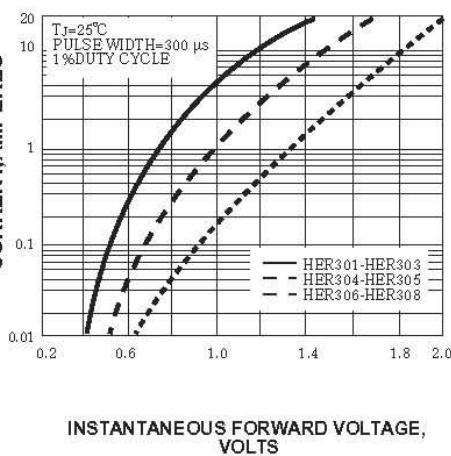
PEAK FORWARD SURGE CURRENT,  
AMPERES

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



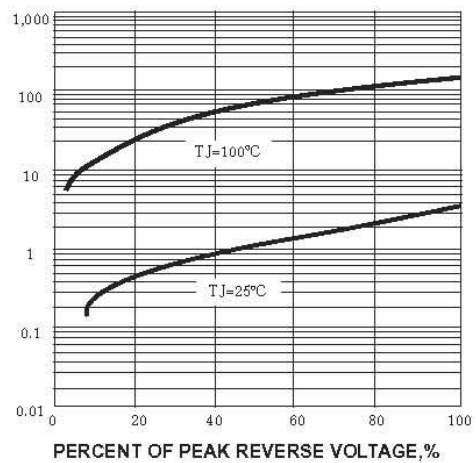
INSTANTANEOUS FORWARD  
CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



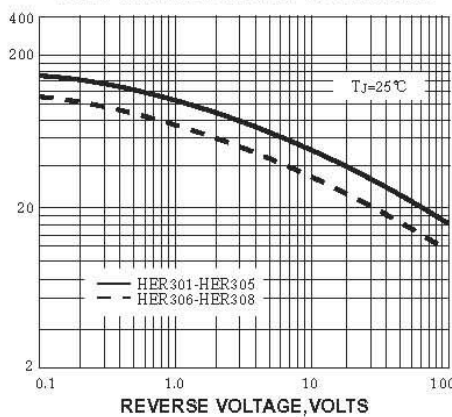
INSTANTANEOUS REVERSE CURRENT,  
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

