



# HER3001 thru HER3007

High Efficient Rectifiers  
Reverse Voltage 50 to 1000 Volts Forward Current 3.0 Amperes

## Features

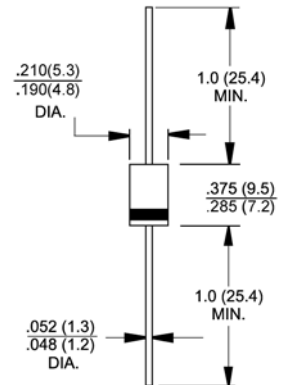
- ◆ Low cost
- ◆ Diffused junction
- ◆ Ultra fast switching for high efficiency
- ◆ Low reverse leakage current
- ◆ Low forward voltage drop
- ◆ High current capability
- ◆ The plastic material carries UL recognition 94V-0
- ◆  $T_J$  is 150°C (Max.) and  $T_{STG}$  is 175°C (Max.) with PI glue



DO-201AD

## Mechanical Data

- ◆ Case : JEDEC DO-201AD molded plastic
- ◆ Polarity : Color band denotes cathode
- ◆ Weight : 0.042 ounce, 1.19 grams
- ◆ Mounting position : Any



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, derate current by 20%

Parameter	Symbols	HER 3001	HER 3002	HER 3003	HER 3004	HER 3005	HER 3006	HER 3007	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified current @ $T_A=55^\circ\text{C}$	$I_{(AV)}$					3.0			Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$					150.0			Amps
Maximum forward voltage at 3.0A DC	$V_F$	1.0			1.3	1.7			Volts
Maximum DC reverse current at rated DC blocking voltage @ $T_J=25^\circ\text{C}$ @ $T_J=100^\circ\text{C}$	$I_R$					5.0 100			$\mu\text{A}$ $\mu\text{A}$
Maximum reverse recovery time (Note 1)	$t_{tr}$	50					75		nS
Typical junction capacitance (Note 2)	$C_J$	75					50		pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$					20			$^\circ\text{C/W}$
Operating junction temperature range	$T_J$					-55 to +125			$^\circ\text{C}$
Storage temperature range	$T_{STG}$					-55 to +150			$^\circ\text{C}$

- Notes:**
1. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{RR}=0.25\text{A}$ .
  2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  3. Thermal Resistance Junction to Ambient.

# RATINGS AND CHARACTERISTIC CURVES

FIG.1 - FORWARD CURRENT DERATING CURVE

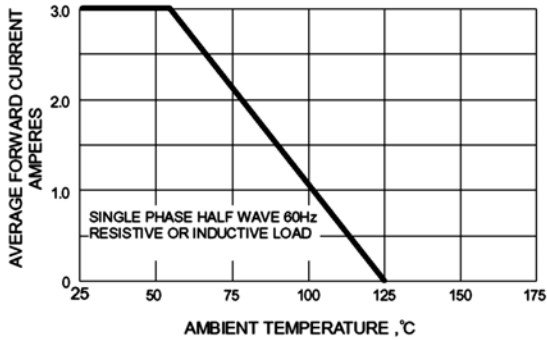


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

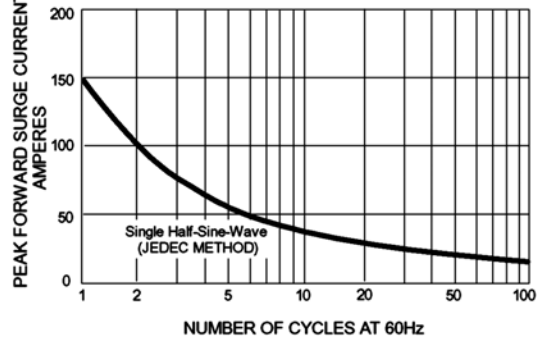


FIG.3 - TYPICAL JUNCTION CAPACITANCE

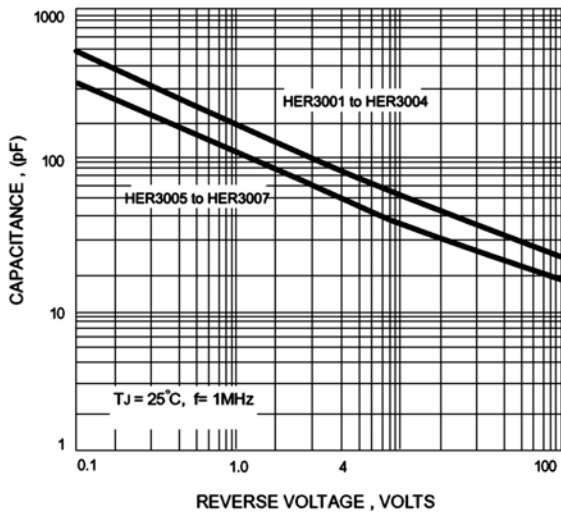


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

