



# HER301 THRU HER308

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

## 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-201AD Molded plastic body

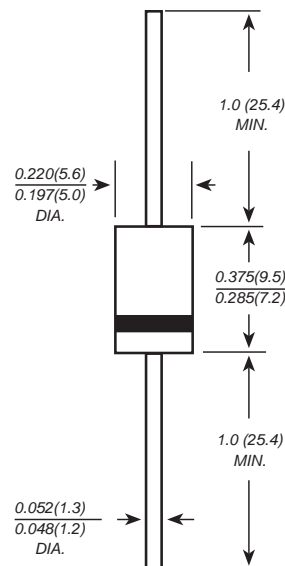
**Terminals** : Solder plated, solderable per MIL-STD-750, Method 2026

**Polarity** : Polarity symbol marking on body

**Mounting Position** : Any

**Weight** : 0.04 ounce, 1.10 grams

DO-201AD



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	HER 301	HER 302	HER 303	HER 304	HER 305	HER 306	HER 307	HER 308	UNITS
Marking code		MDD HER 301	MDD HER 302	MDD HER 303	MDD HER 304	MDD HER 305	MDD HER 306	MDD HER 307	MDD HER 308	
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 0.375"(9.5mm) lead length at T <sub>A</sub> =50°C	I <sub>(AV)</sub>	3.0								A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	200.0					150.0			A
Maximum instantaneous forward voltage at 3.0A	V <sub>F</sub>	1.0			1.3		1.7			V
Maximum DC reverse current      T <sub>A</sub> =25°C at rated DC blocking voltage      T <sub>A</sub> =100°C	I <sub>R</sub>	5.0 100.0								μA
Maximum reverse recovery time      (NOTE 1)	t <sub>rr</sub>	50					70			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 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



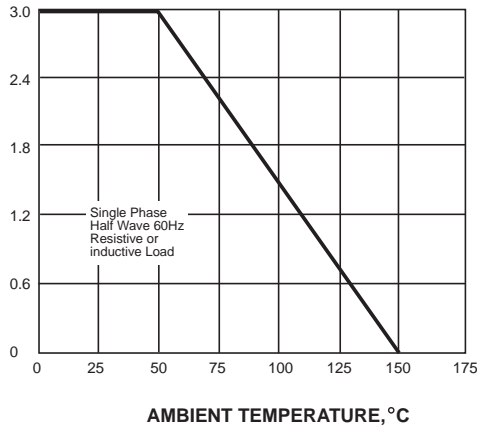
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## Ratings And Characteristic Curves

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

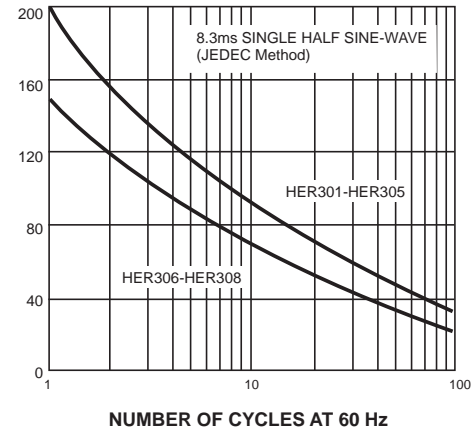
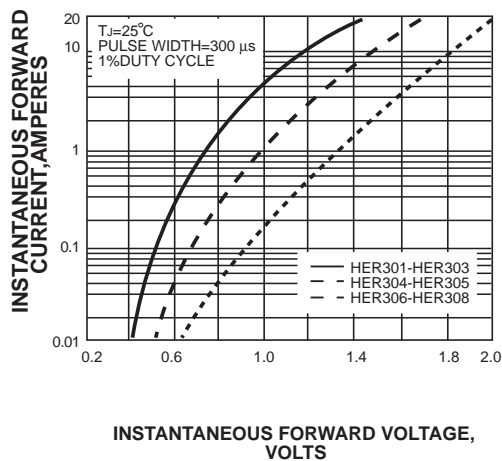


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT,  
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

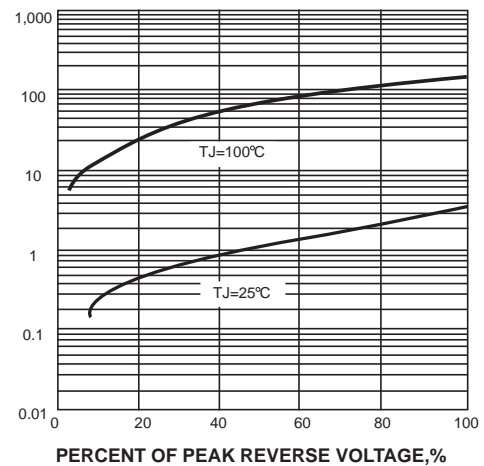
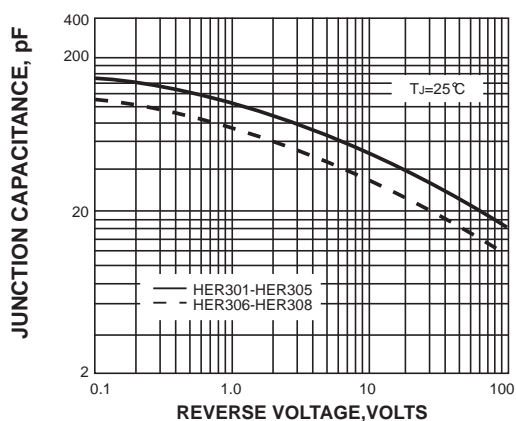
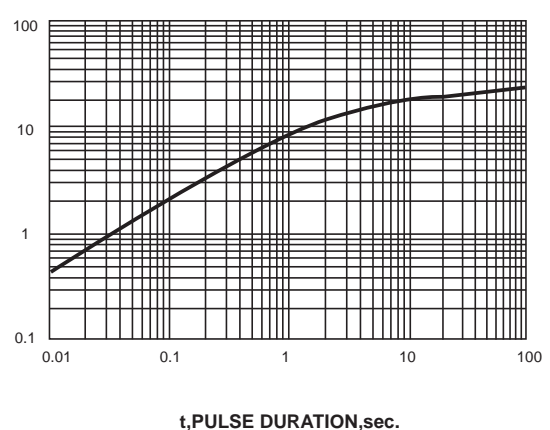


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.