



# HER301 THRU HER308

## HIGH EFFICIENCY RECTIFIER

**REVERSE VOLTAGE:** 50 to 1000 VOLTS

**FORWARD CURRENT:** 3.0 AMPERE

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O utilizing Flame Retardant Epoxy Molding Compound.
- Ultra Fast switching for high efficiency.
- High speed switching
- Suffix "H" indicates Halogen-free parts, ex. HER301H

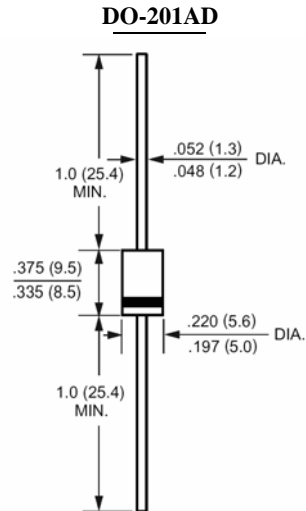
### MECHANICAL DATA

Case : Molded plastic, DO-201AD

Terminals : Axial leads, solderable per MIL-STD-202, method 208 guaranteed

Polarity : Band denotes cathode

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	HER301	HER302	HER303	HER304	HER305	HER306	HER307	HER308	Units	
Maximum Recerrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	300	400	600	800	1000	Volts	
Maximum RMS Voltage	$V_{RMS}$	35	70	140	210	280	420	560	700	Volts	
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	300	400	600	800	1000	Volts	
Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length	$I_{(AV)}$	3.0								Amp	
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	150.0								Amp	
Maximum Forward Voltage at 3.0A and $T_A=25^\circ\text{C}$	$V_F$	1.0			1.3		1.85			Volts	
Maximum Reverse Current at $T_J=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_J=100^\circ\text{C}$	$I_R$					10.0					uAmp
Typical Junction Capacitance (Note 1)	$C_J$	70				50				pF	
Maximum Reverse Recovery Time (Note 2)	$T_{RR}$	50				75				nS	
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	40.0								°C/W	
Operating and Storage Temperature Range	$T_J, T_{stg}$	-65 to +150								°C	

#### NOTES:

- 1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.
- 2- Reverse Recovery Test Conditions:  $I_F=5A$ ,  $I_R=1A$ ,  $I_{RR}=25A$ .
- 3- Thermal Resistance form junction to Ambient at 0.375"(9.5mm) lead length P.C.B. Mounted.

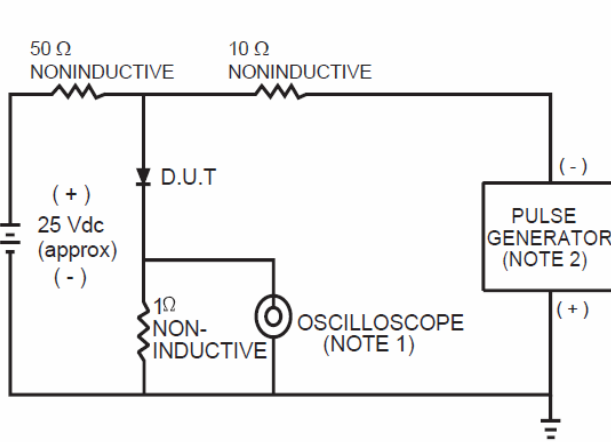


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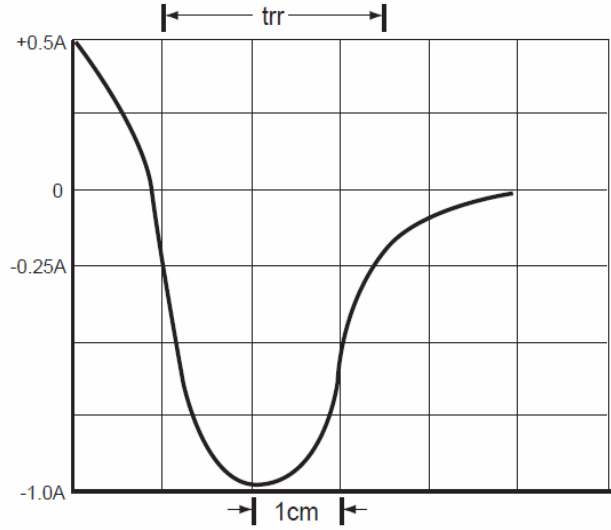
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### RATINGS AND CHARACTERISTIC CURVES

FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



- NOTES: 1 Rise Time = 7ns max. Input Impedance = 1 megohm. 22pF.  
2. Rise Time = 10ns max. Source Impedance = 50 ohms.



SET TIME BASE FOR 20/1 ns/cm

FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

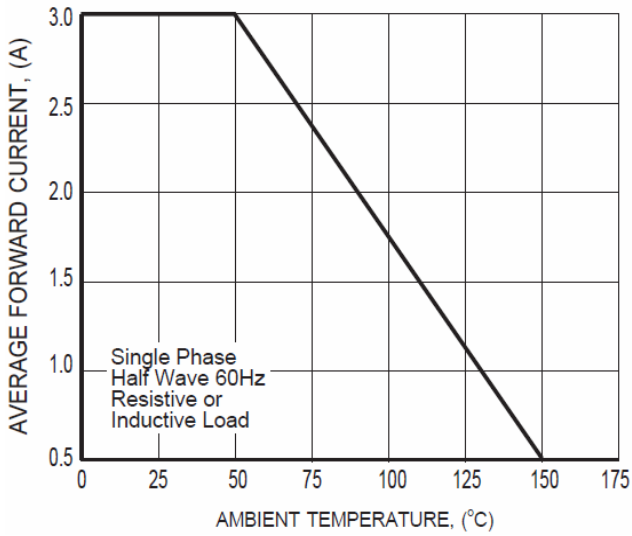


FIG.3 TYPICAL REVERSE CHARACTERISTICS

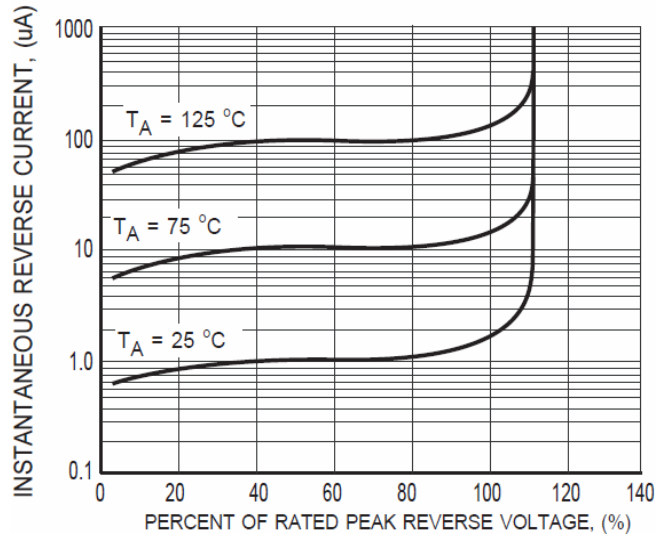


FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

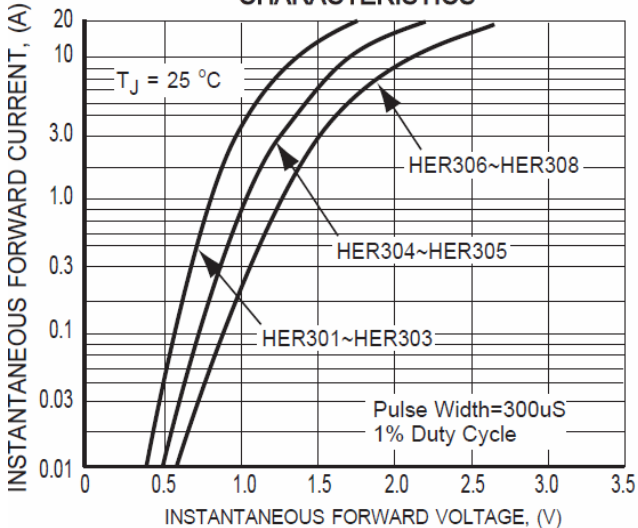


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

