



SYNSEMI SEMICONDUCTOR

HER301G thru HER308G

3.0 Amps. Glass Passivated High Efficient Rectifiers
Voltage Range 50 to 1000 Volts Forward Current 3.0 Amperes

Features

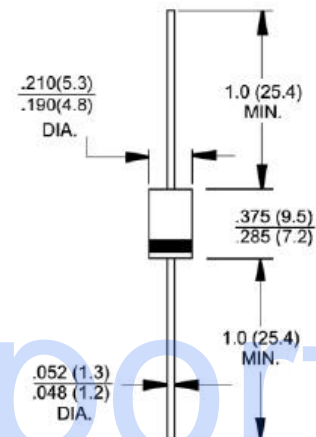
- ◆ Low forward voltage drop
- ◆ High current capability
- ◆ High reliability
- ◆ High surge current capability



DO-201AD

Mechanical Data

- ◆ Case: Molded plastic DO-201AD
- ◆ Epoxy: UL 94V-0 rate flame retardant
- ◆ Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- ◆ Polarity: Color band denotes cathode end
- ◆ High temperature soldering guaranteed: 250°C/10 seconds .375" (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ◆ Mounting position: Any
- ◆ Weight: 0.042 ounce, 1.195 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, derate current by 20%

Parameter	Symbols	HER 301G	HER 302G	HER 303G	HER 304G	HER 305G	HER 306G	HER 307G	HER 308G	Units	
Maximum repetitive 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 @ $T_a=55^\circ\text{C}$	$I_{F(AV)}$	3.0								Amps	
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	125.0								Amps	
Maximum instantaneous forward voltage @ 3.0A	V_F	1.0			1.3		1.7			Volts	
Maximum DC reverse current at rated DC blocking voltage	I_R	@ $T_a=25^\circ\text{C}$ 200				@ $T_a=100^\circ\text{C}$ 10.0				μA μA	
Maximum reverse recovery time (Note 1)	t_r	50					75				nS
Typical junction capacitance (Note 2)	C_j	80					50				pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	20.0				5.6					$^\circ\text{C/W}$
Operating and storage temperature range	T_J, T_{STG}	-65 to +150								$^\circ\text{C}$	

- Notes:**
1. Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
 2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.
 3. Thermal Resistance from Junction to Ambient and from Junction to Lead at 0.375" (9.5mm) Lead Length P.C.B. Mounted

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RATINGS AND CHARACTERISTIC CURVES

FIG.1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

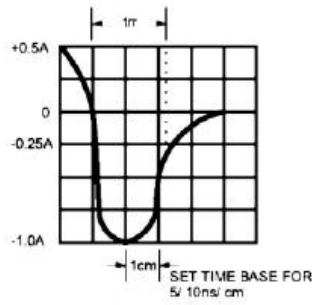
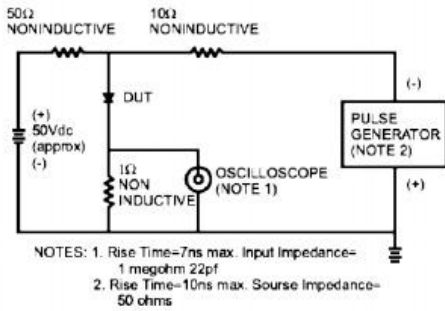


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

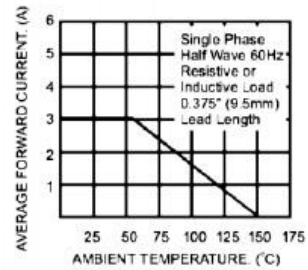


FIG.3- TYPICAL REVERSE CHARACTERISTICS

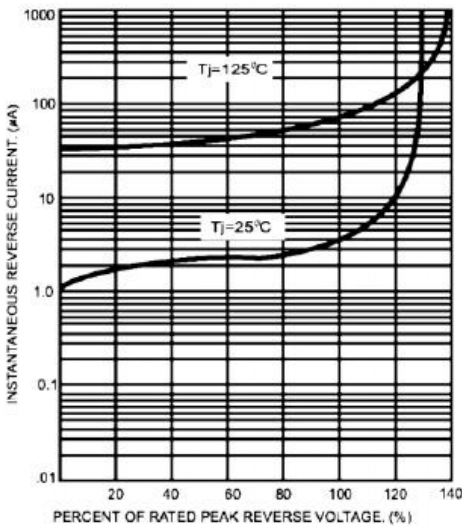


FIG.4- TYPICAL FORWARD CHARACTERISTICS

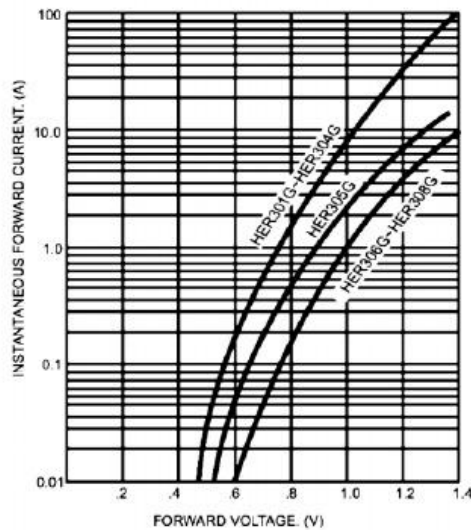


FIG.5- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

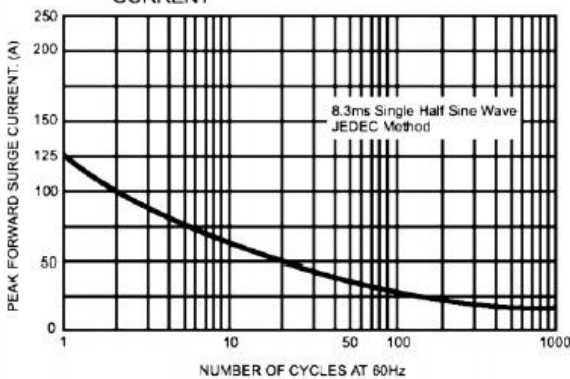


FIG.6- TYPICAL JUNCTION CAPACITANCE

