

# HER501 - HER508

## 5.0 AMP. High Efficiency Rectifiers

### DO-201AD

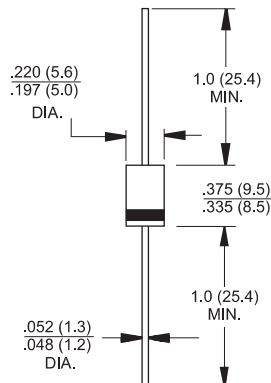


## Features

- ✦ High efficiency, Low VF
- ✦ High current capability
- ✦ High reliability
- ✦ High surge current capability
- ✦ For use in low voltage, high frequency inverter, free wheeling, and polarity protection application.

## Mechanical Data

- ✦ Cases: Molded plastic
- ✦ Epoxy: UL 94V0 rate flame retardant
- ✦ Lead: Pure tin plated, lead free, solderable per MIL-STD-202, method 208 guaranteed
- ✦ Polarity: Color band denotes cathode
- ✦ High temperature soldering guaranteed: 260°C/10 seconds/.375"(.9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✦ Weight: 1.65grams



Dimensions in inches and (millimeters)

## Maximum Rating and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	Symbol	HER 501	HER 502	HER 503	HER 504	HER 505	HER 506	HER 507	HER 508	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	300	400	600	800	1000	V
Maximum RMS Voltage	$V_{RMD}$	35	70	140	210	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	300	400	600	800	1000	V
Maximum Average Forward Rectified Current .375 (9.5mm) lead length @ $T_A = 55^\circ C$	$I_{(AV)}$	5.0								A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method )	$I_{FSM}$	200								A
Maximum Instantaneous Forward Voltage @5.0A	$V_F$	1.0			1.3		1.7			V
Maximum DC Reverse Current @ $T_a=25^\circ C$ at Rated DC Blocking Voltage @ $T_a=125^\circ C$	$I_R$	10 250								$\mu A$ $\mu A$
Maximum Reverse Recovery Time ( Note 1 )	$T_{rr}$	50					75			nS
Typical Junction Capacitance ( Note 2 )	$C_j$	100					65			pF
Typical Thermal Resistance	$R_{\theta JA}$	40								$^\circ C/W$
Operating Temperature Range	$T_J$	-65 to +150								$^\circ C$
Storage Temperature Range	$T_{STG}$	-65 to +150								$^\circ C$

- Notes:
1. Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$
  2. Measured at 1 MHz and applied reverse voltage of 4.0 V D.
  3. Mount on Cu-Pad Size 16mm x 16mm on P.C.B.

## RATINGS AND CHARACTERISTIC CURVES (HER501 THRU HER508)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

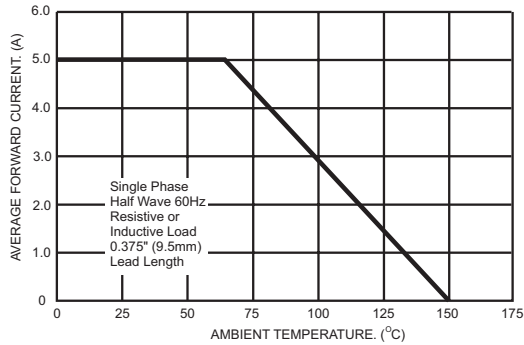


FIG.2- TYPICAL REVERSE CHARACTERISTICS

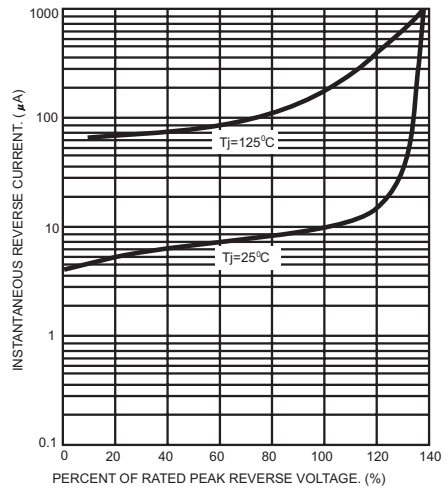


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

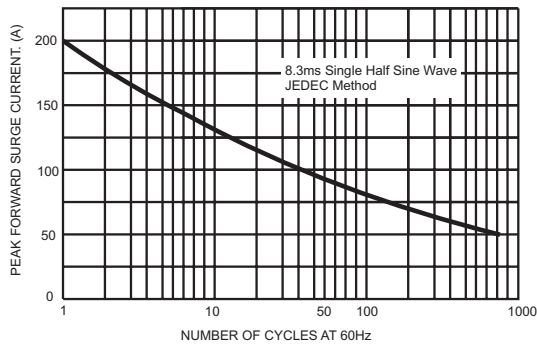


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

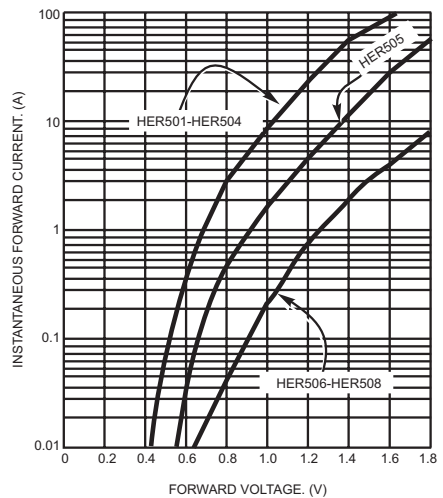


FIG.4- TYPICAL JUNCTION CAPACITANCE

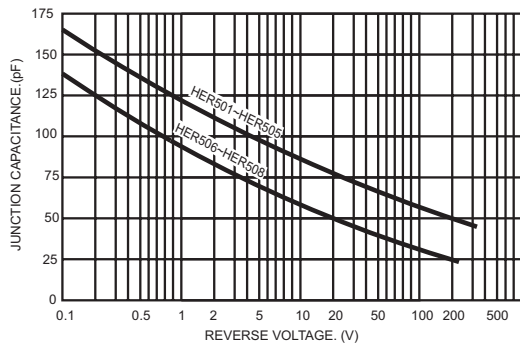
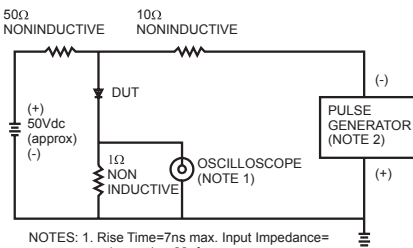


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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

