

# HER601-HER608

High Efficiency Rectifiers

**VOLTAGE RANGE: 50 --- 1000 V**

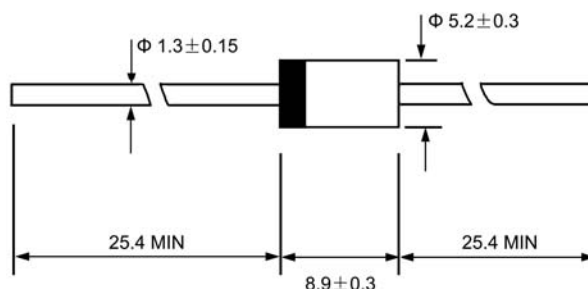
**CURRENT: 6.0 A**

**DO-27**



## Features

- ◇ Low cost
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0



Dimensions in millimeters

## Mechanical Data

- ◇ Case: JEDEC DO-27, molded plastic
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.041 ounces, 1.15 grams
- ◇ Mounting position: Any

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

		HER 601	HER 602	HER 603	HER 604	HER 605	HER 606	HER 607	HER 608	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	50	100	200	300	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	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 9.5mm lead length, @ $T_A=75^\circ C$	$I_{F(AV)}$	6.0								A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ C$	$I_{FSM}$	200.0								A
Maximum instantaneous forward voltage @ 6.0A	$V_F$	1.0		1.3		1.7			V	
Maximum reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=100^\circ C$	$I_R$	10.0 200.0								$\mu A$
Maximum reverse recovery time (Note1)	$t_{rr}$	60				75				ns
Typical junction capacitance (Note2)	$C_J$	100				65				pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	12								$^\circ C/W$
Operating junction temperature range	$T_J$	- 55 ---- + 150								$^\circ C$
Storage temperature range	$T_{STG}$	- 55 ---- + 150								$^\circ C$

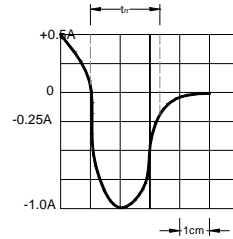
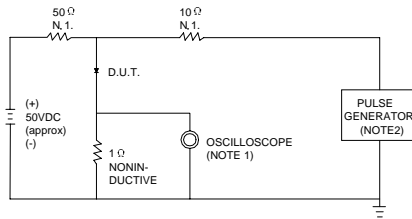
NOTE: 1. Measured with  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$ .

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 -- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**

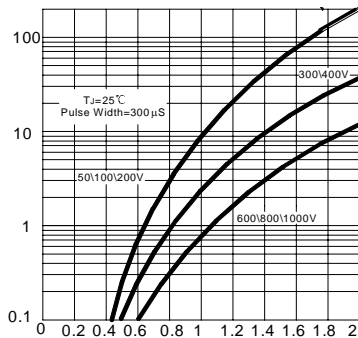


NOTES:1.RISE TIME = 7ns MAX.INPUT IMPEDANCE = 1MΩ.22pF.  
2.RISE TIME =10ns MAX.SOURCE IMPEDANCE=50 Ω.

SET TIME BASE FOR 10/20 ns/cm

**FIG.2 -- TYPICAL FORWARD CHARACTERISTIC**

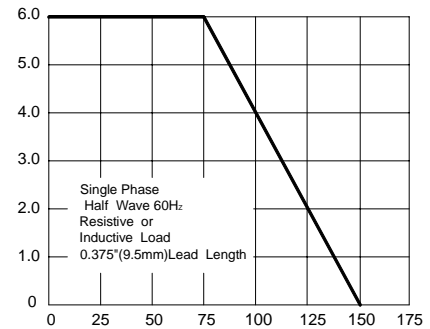
INSTANTANEOUS FORWARD CURRENT  
AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

**FIG.3 -- FORWARD DERATING CURVE**

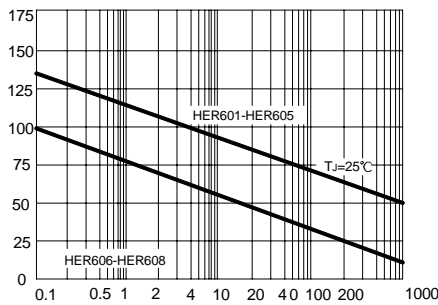
AVERAGE FORWARD CURRENT  
AMPERES



AMBIENT TEMPERATURE, °C

**FIG.4 -- TYPICAL JUNCTION CAPACITANCE**

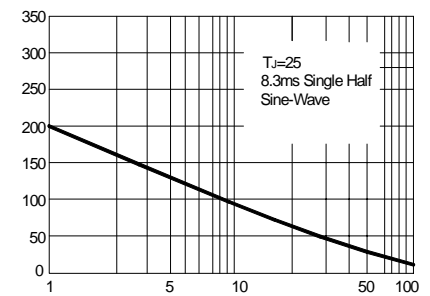
JUNCTION CAPACITANCE,pF



REVERSE VOLTAGE, VOLTS

**FIG.5 -- PEAK FORWARD SURGE CURRENT**

PEAK FORWARD SURGE CURRENT  
AMPERES



NUMBER OF CYCLES AT 60Hz