

# PFS

## HIGH EFFICIENCY RECTIFIER

### HER601 THRU HER607

**VOLTAGE RANGE**  
**CURRENT**

**50 to 800 Volts**  
**6.0Ampere**

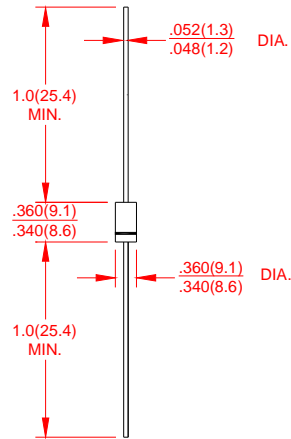
R-6

#### FEATURES

- Low coat construction
- Fast switching for high efficiency.
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:  
260°C/10 secods/.375”(9.5mm)lead length at 5 lbs(2.3kg) tension

#### MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-O rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.07ounce, 2.0 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%

	SYMBOLS	HER 601	HER 602	HER 603	HER 604	HER 605	HER 606	HER 607	UNITS
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	300	400	600	800	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	140	210	280	420	560	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	300	400	600	800	Volts
Maximum Average Forward Rectified Current 0.375”(9.5mm) lead length at $T_A=50^\circ\text{C}$	$I_{(AV)}$	5.0							Amp
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	$I_{FSM}$	200							Amps
Maximum Instantaneous Forward Voltage @ 6.0A	$V_F$	1.0			1.3	1.5	1.7	Volts	
Maximum DC Reverse Current at Rated DC Blocking Voltage	$I_R$	$T_A = 25^\circ\text{C}$							$\mu\text{A}$
		$T_A = 125^\circ\text{C}$							
Maximum Full Load Recovery Current,full cycle average 0.375”(9.5mm)lead length at $T_L=55^\circ\text{C}$	$I_{R(AV)}$	150							$\mu\text{A}$
Maximum Reverse Recovery Time(NOTE 1)	$t_{rr}$	70					100		ns
Typical Thermal Resistance (NOTE 2)	$C_J$	110							PF
Typical Thermal Resistance(NOTE 3)	$R_{\theta JA}$	10							$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_J, T_{STG}$	(-55 to +150)							$^\circ\text{C}$

#### Notes:

- 1 Test Condition:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$
2. Measured at 1.0 MHz and applied reverse of 4.0 V
- 3 Thermal resistance from junction to ambient with .375”(9.5mm)lead length, P.C.B. mounted. .

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FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

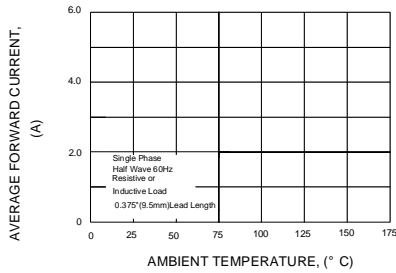


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

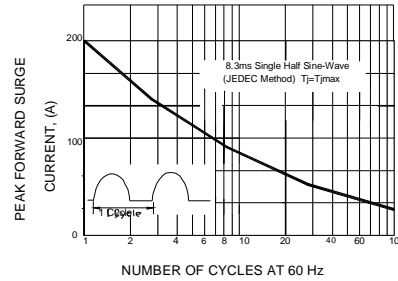


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

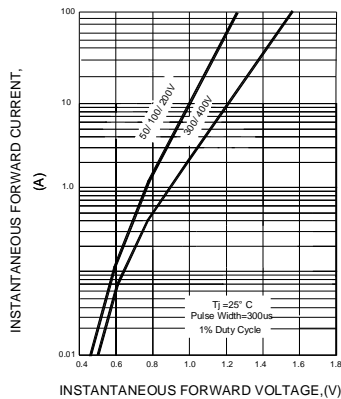


FIG.4-TYPICAL REVERSE CHARACTERISTICS

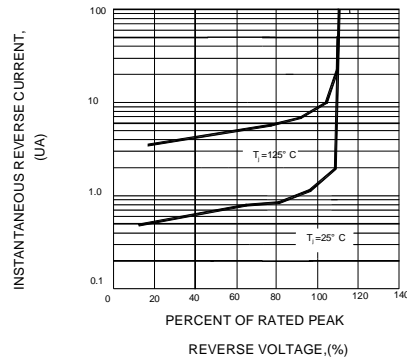


FIG.5-TYPICAL JUNCTION CAPACITANCE

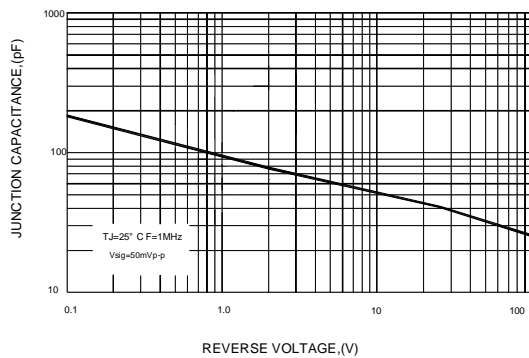
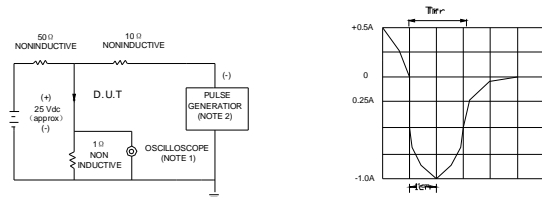


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTE: 1. Rise Time = 7ns max. Input Impedance = 1megohm, 22pF  
2. Rise time = 10ns max. Source Impedance = 50 ohms