



## HIGH EFFICIENCY GLASS PASSIVATED RECTIFIER

### HER501G THRU HER507G

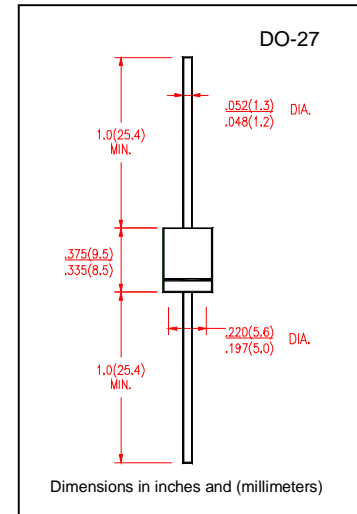
**VOLTAGE RANGE**      50 to 1000 Volts  
**CURRENT**                5.0 Ampere

#### FEATURES

- Glass passivated chip junction
- Low power loss, high efficiency
- Low leakage
- High speed switching
- High surge capacity
- High temperature soldering guaranteed  
260°C/10 seconds, 0.375" (9.5mm) lead length

#### MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.042ounce, 1.19 gram



#### 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 501G	HER 502G	HER 503G	HER 504G	HER 505G	HER 506G	HER 507G	UNIT
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							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	200					150		Amps
Maximum Instantaneous Forward Voltage at 5.0A	$V_F$	1.0			1.3		1.5	1.7	Volts
Maximum DC Reverse Current at rated DC Blocking Voltage at	$I_R$	$T_A = 25^\circ\text{C}$							$\mu\text{A}$
		10							
Maximum Full Load Reverse Current, full cycle average 0.375" (9.5mm) lead length at $T_L=55^\circ\text{C}$	$I_{R(AV)}$	$T_A = 125^\circ\text{C}$							$\mu\text{A}$
		500							
Maximum Reverse Recovery Time Test conditions $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{RR}=0.25\text{A}$ ,	$t_{rr}$	70				100			nS
Typical Junction Capacitance (NOTE 2)	$C_J$	70						50	pF
Typical Thermal Resistance (NOTE 1)	$R_{\theta JA}$	20							$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_J$	(-55 to +150)							$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	(-55 to +150)							$^\circ\text{C}$

#### Notes:

1. Thermal Resistance from Junction to ambient with 0.375" (9.5mm) lead length, PCB mounted.
2. Measured at 1.0MHz and applied reverse voltage of 4.0V



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## RATING AND CHARACTERISTIC CURVES HER501G THRU HER507G

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

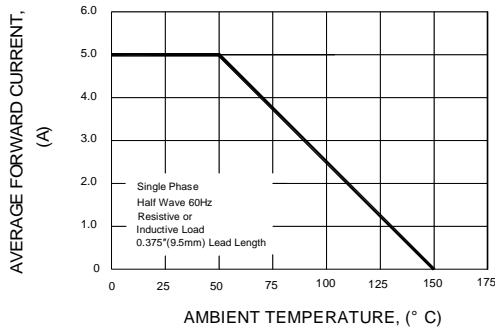


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

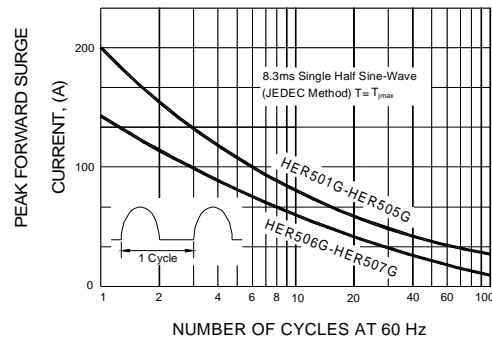


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

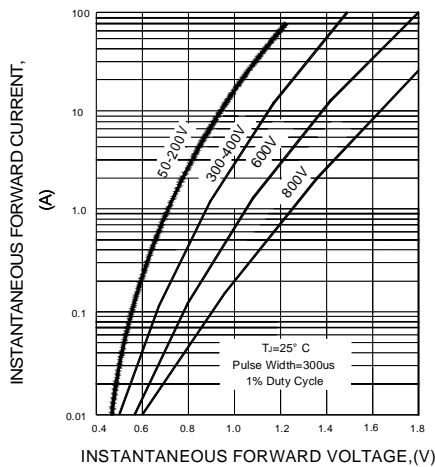


FIG.4-TYPICAL REVERSE CHARACTERISTICS

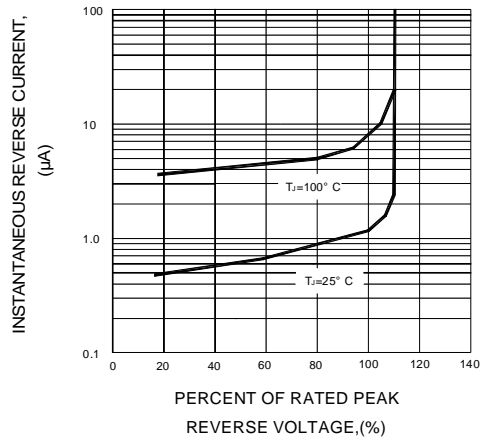


FIG.5-TYPICAL JUNCTION CAPACITANCE

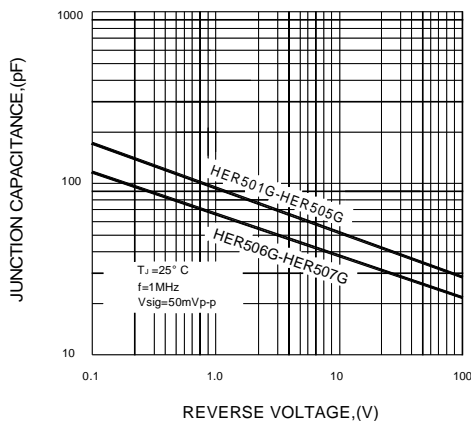
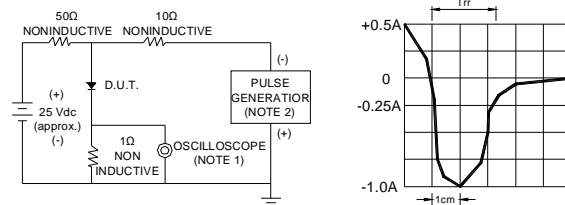


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

SET TIME BASE FOR 50/100ns/cm