



# HIGH EFFICIENCY RECTIFIER

**HER301 THRU HER307**

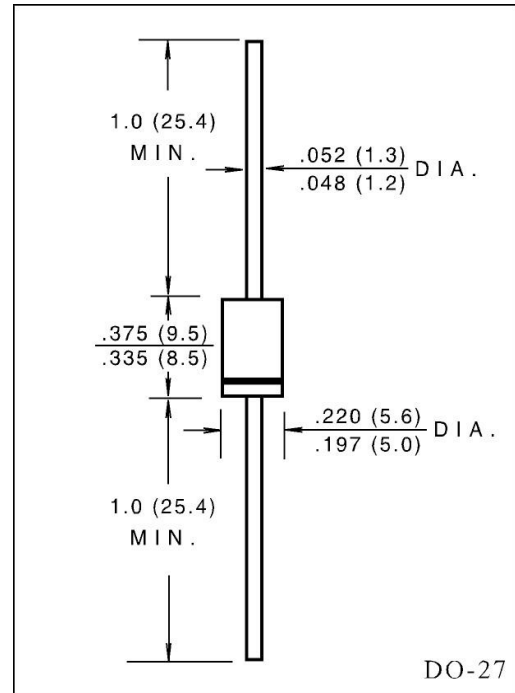
**VOLTAGE RANGE** 50 to 800 Volts  
**CURRENT** 3.0 Ampere

**FEATURES**

- Low power loss, high efficiency.
- Low leakage
- High speed switching.
- High current capability.
- High surge capability
- High temperature soldering guaranteed:  
 260°C/10 seconds, 0.375" (9.5mm)lead length  
 at 5 lbs. (2.3kg) tension

**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: 0.042 ounce, 1.19gram



**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 301	HER 302	HER 303	HER 304	HER 305	HER 306	HER 307	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 $T_A = 50^\circ C$	$I_{(AV)}$	3.0							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 Drop at 3.0 A	$V_F$	1.0		1.3		1.5	17		Volts
Maximum DC Reverse Current at rated DC blocking voltage $T_A = 25^\circ C$	$I_R$	10							$\mu A$
Maximum Full Load Reverse Current, full cycle average 0.375" (9.5mm) lead length at $T_L = 55^\circ C$	$I_{R(AV)}$	150							$\mu A$
Maximum Reverse Recovery Time (Note 1)	$t_{rr}$	50				70			nS
Typical Junction Capacitance (Note 2)	$C_J$	70				50			pF
Typical Thermal Resistance(Note 3)	$R_{\theta JA}$	20							$^\circ C/W$
Operating and Storage Temperature Range	$T_J, T_{STG}$	(-65 to +150)							$^\circ C$

**NOTES:**

1. Test condition:  $I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A$
2. Measured at 1 MHz and applied reverse of 4.0 volts.
3. Thermal resistance from junction to ambient with 0.375" (9.5mm) lead length, P.C.B. mounted.

# RATINGS AND CHARACTERISTIC CURVES HER301 THRU HER307

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

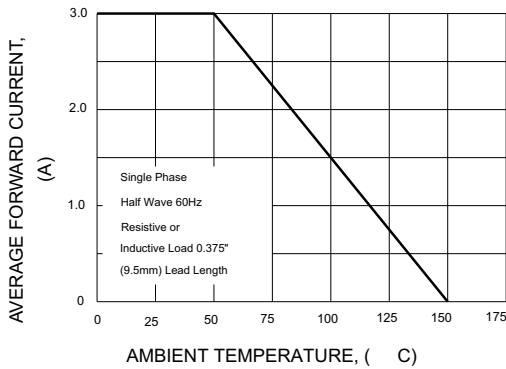


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

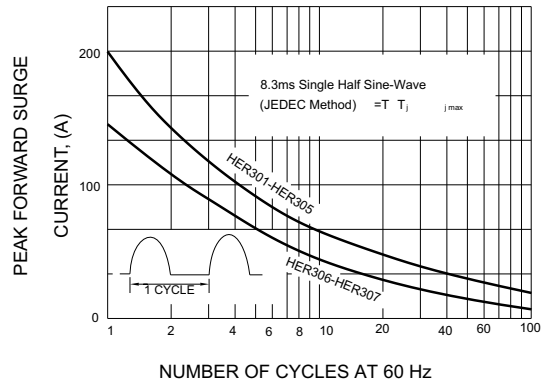


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

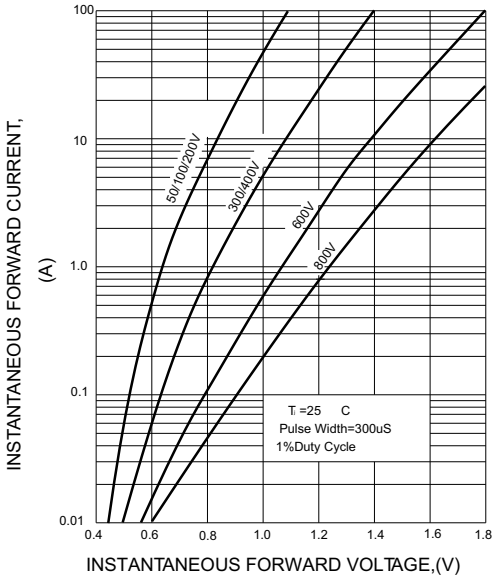


FIG.4-TYPICAL REVERSE CHARACTERISTICS

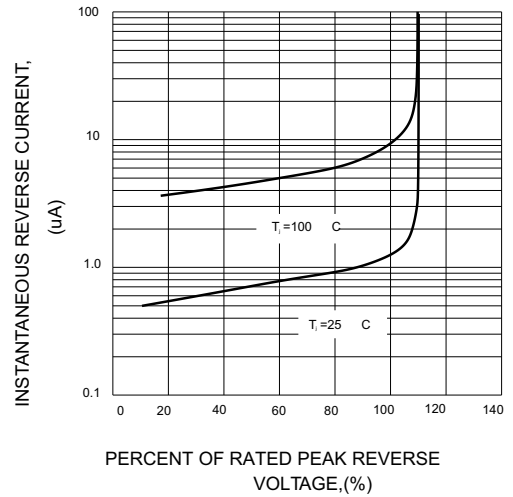


FIG.5-TYPICAL JUNCTION CAPACITANCE

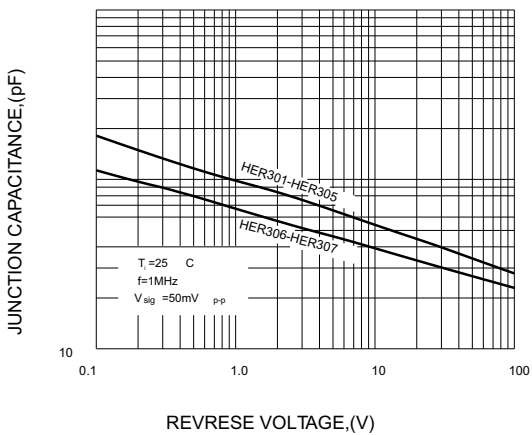


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

