



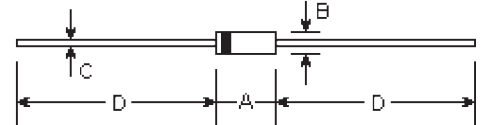
# HER1001 THRU HER1007

**HIGH EFFICIENCY RECTIFIER**  
**Reverse Voltage - 50 to 1000 Volts**  
**Forward Current - 1.0 Ampere**

## Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- 1.0 ampere operation at  $T_A=55^\circ\text{C}$  with no thermal runaway
- Low cost
- Ultrafast recovery time for high efficiency
- Low forward voltage
- Low leakage current
- High surge current capability
- High temperature soldering guaranteed:  $250^\circ\text{C}/10$  seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3Kg) tension.

## DO-41



## Mechanical Data

- **Case:** DO-41 molded plastic body
- **Terminals:** Plated axial leads, solderable per MIL-STD-750, method 2026
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any
- **Weight:** 0.012 ounce, 0.33 gram

DIM	DIMENSIONS				Note
	inches		mm		
	Min.	Max.	Min.	Max.	
A	0.165	0.205	4.2	5.2	
B	0.079	0.106	2.0	2.7	φ
C	0.028	0.034	0.71	0.86	φ
D	1.000	-	25.40	-	

## Maximum Ratings and Electrical Characteristics

Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.

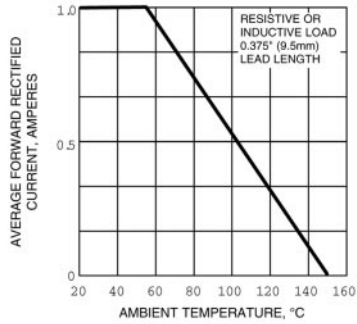
	Symbols	HER 1001	HER 1002	HER 1003	HER 1004	HER 1005	HER 1006	HER 1007	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{(AV)}$	1.0							Amp
Peak forward surge current, 8.3mS single half sine-wave superimposed on rated load (MIL-STD-750D 4066 method)	$I_{FSM}$	30.0							Amps
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.0				1.7			Volts
Maximum DC reverse current at rated DC blocking voltage $T_J=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	$I_R$	10.0 50.0							$\mu\text{A}$
Maximum reverse recovery time (Note 1)	$T_{rr}$	50.0				100.0			nS
Typical junction capacitance (Note 2)	$C_J$	17.0							$\text{pF}$
Typical thermal resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	60.0 15.0							$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

### Notes:

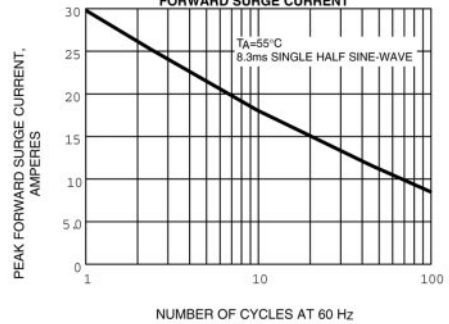
- (1) Reverse recovery test conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$
- (2) Measured at 1.0MHz and applied reverse voltage of 4.0 volts
- (3) Thermal resistance from junction to ambient and from junction to lead length 0.375" (9.5mm), P.C.B. mounted

# RATINGS AND CHARACTERISTIC CURVES

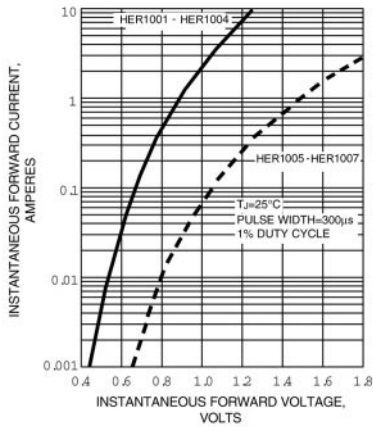
**FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE**



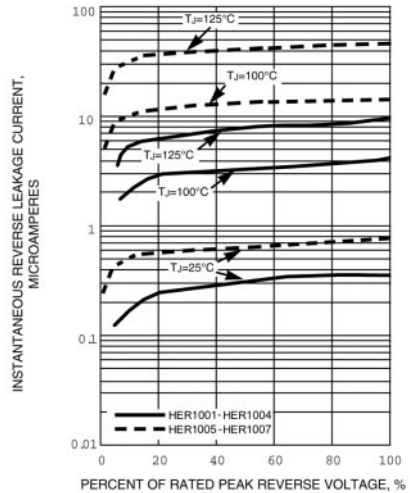
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS**



**FIG. 5 - TYPICAL JUNCTION CAPACITANCE**

