

# HER201 THRU HER208

## HIGH EFFICIENCY RECTIFIERS

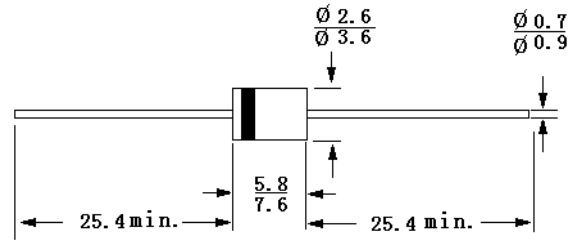
Voltage – 50 to 1000 Volts

Current – 2.0 Amperes

DO-15

### Features

- Void-free plastic in a DO-15 package
- 2A operation at  $T_a = 55^\circ\text{C}$  with no thermal runaway
- Ultra fast switching for high efficiency



Dimensions in mm

### Mechanical Data

- **Case:** Molded plastic
- **Lead:** MIL-STD-202, method 208 guaranteed
- **Polarity:** Band denotes cathode
- **Mounting Position:** Any

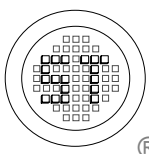
### Absolute Maximum Ratings and Characteristics

Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

	Symbols	HER 201	HER 202	HER 203	HER 204	HER 205	HER 206	HER 207	HER 208	Units	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	300	400	600	800	1000	Volts	
Maximum RMS voltage	$V_{RMS}$	35	70	140	210	280	420	560	700	Volts	
Maximum DC blocking voltage	$V_{DC}$	50	100	200	300	400	600	800	1000	Volts	
Maximum average forward rectified current at $T_A = 55^\circ\text{C}$	$I_O$	2.0								Amps	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	60								Amps	
Maximum instantaneous forward voltage at 2.0A DC	$V_F$	1.0		1.3		1.7				Volts	
Maximum DC reverse current at rated DC blocking voltage	$I_R$	$T_J = 25^\circ\text{C}$ 5.0				$T_J = 100^\circ\text{C}$ 500					$\mu\text{Amps}$
Maximum reverse recovery time (Note 1)	$t_{rr}$	50					75				nSec
Typical junction capacitance (Note 2)	$C_J$	35								pF	
Typical thermal resistance (Note3)	$R_{\theta JA}$	45								$^\circ\text{C/W}$	
Operating and storage temperature range	$T_J, T_S$	-55 to +150								$^\circ\text{C}$	

### Notes:

1. Test Conditions:  $I_F = 0.5\text{A}$ ,  $I_R = 1\text{A}$ ,  $I_{RR} = 0.25\text{A}$ .
2. Measured at 1 MHz and applied reverse voltage of 4 volts.
3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length P.C.B. mounted.



**SEMTECH ELECTRONICS LTD.**

(Subsidiary of Semtech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
Certificate No. 05103



ISO 14001  
Certificate No. 7116



ISO 9001 : 2000  
Certificate No. 550-159-04-002-04

Dated : 03/07/2003 H

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## RATINGS AND CHARACTERISTIC CURVES

Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

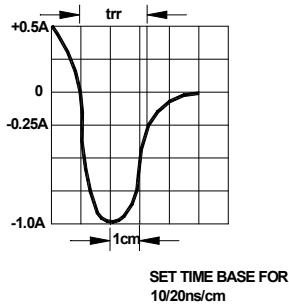
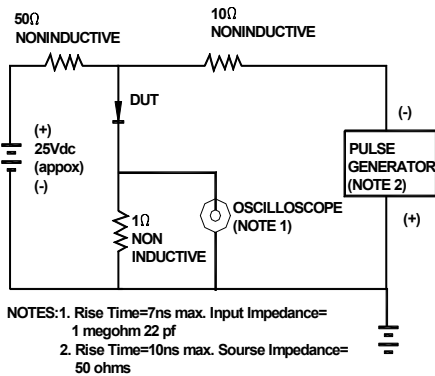


Fig.2 - TYPICAL FORWARD CURRENT DERATING

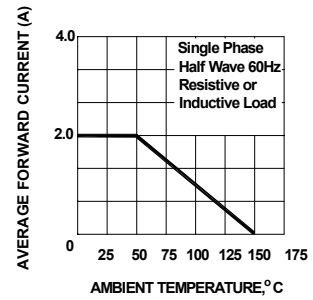


Fig. 3-TYPICAL REVERSE CHARACTERISTICS

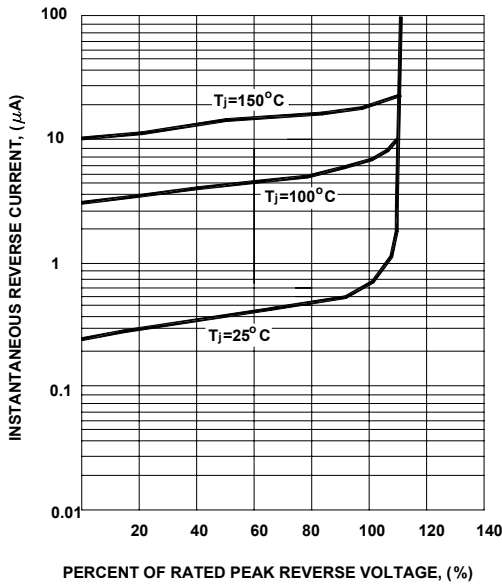


Fig. 4-TYPICAL FORWARD CHARACTERISTICS

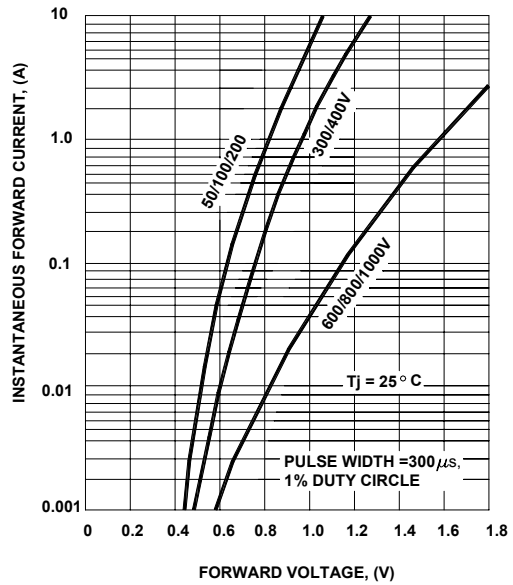


Fig. 5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

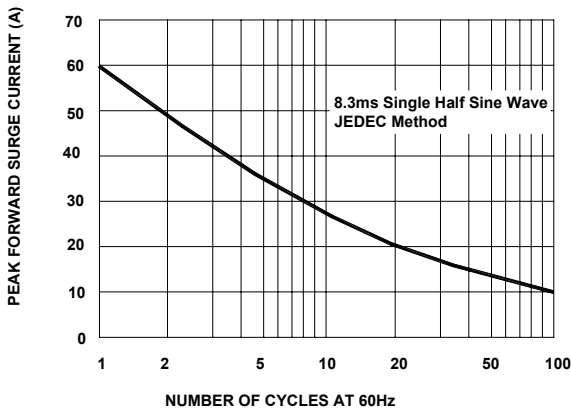
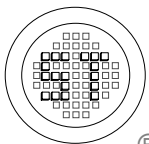
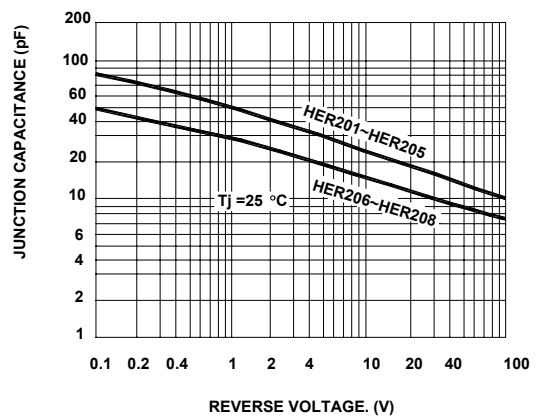


Fig. 6-TYPICAL JUNCTION CAPACITANCE



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