

# HER101 THRU HER108

## HIGH EFFICIENCY RECTIFIERS

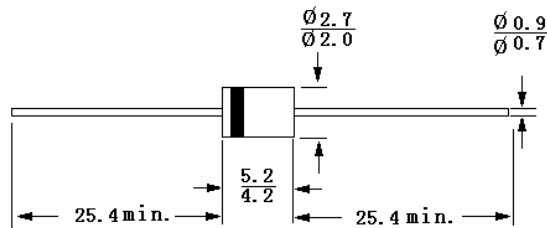
Reverse Voltage – 50 to 1000 Volts

Forward Current – 1.0 Ampere

DO-41

### Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O utilizing Flame Retardant Epoxy Molding Compound
- Void-free Plastic in DO-41 package
- 1.0 amperes operation at  $T_a = 55^\circ\text{C}$  with no thermal runaway
- Ultra Fast switching for high efficiency
- Exceeds environmental standards of MIL-S-19500/228



Dimensions in mm

### Mechanical Data

- Case: Molded plastic, DO-41
- Lead: MIL-STD-202 method 208 guaranteed
- Polarity: Band denotes cathode
- Mounting Position: Any

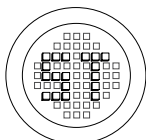
### Absolute Maximum Ratings and Characteristics

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

	Symbols	HER 101	HER 102	HER 103	HER 104	HER 105	HER 106	HER 107	HER 108	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 $T_A = 55^\circ\text{C}$	$I_O$	1.0								Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30								Amps
Maximum instantaneous forward voltage at 1A DC	$V_F$	1.0		1.3		1.7				Volts
Maximum reverse current at rated reverse voltage	$I_R$			10		500				$\mu\text{Amps}$
Maximum reverse recovery time (Note 1)	$t_{rr}$	50			75					nSec
Typical junction capacitance (Note 2)	$C_J$	17								pF
Typical junction resistance (Note 3)	$R_{\theta JA}$	60								$^\circ\text{C/W}$
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 1MHz and applied reverse voltage of 4 volts DC.
3. Thermal resistance from junction to ambient and from junction to lead length 0.375"(9.5mm) P.C.B. mounted.



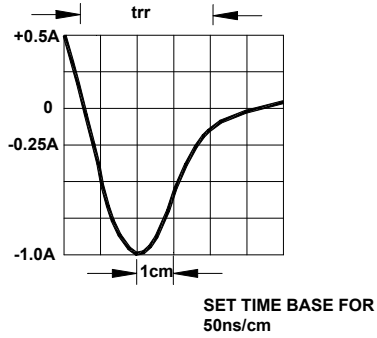
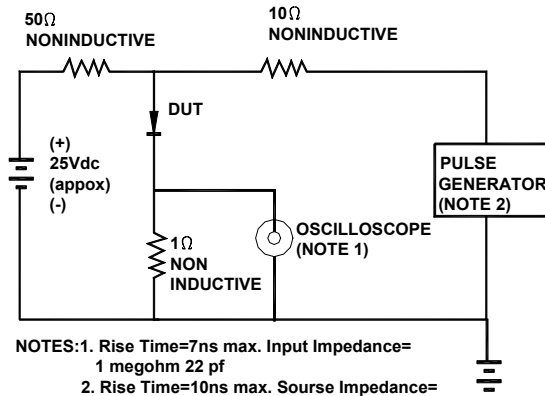
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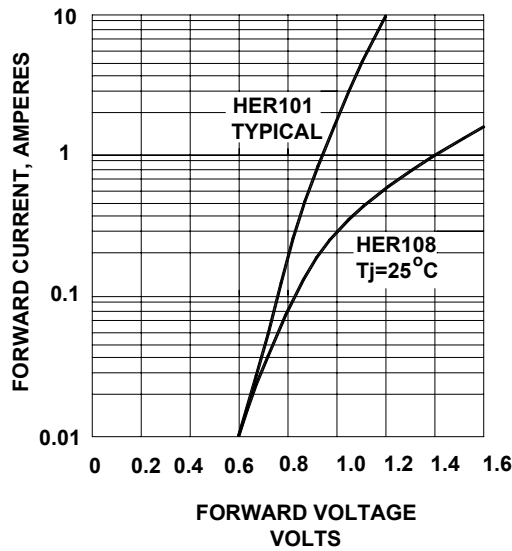
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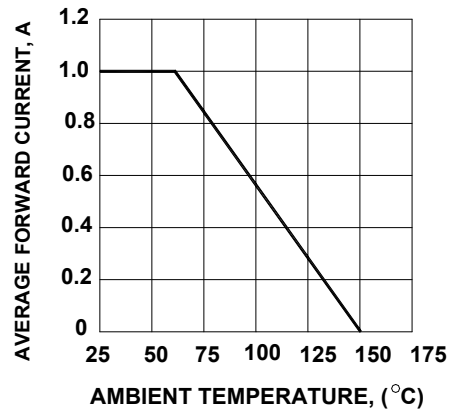
## REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



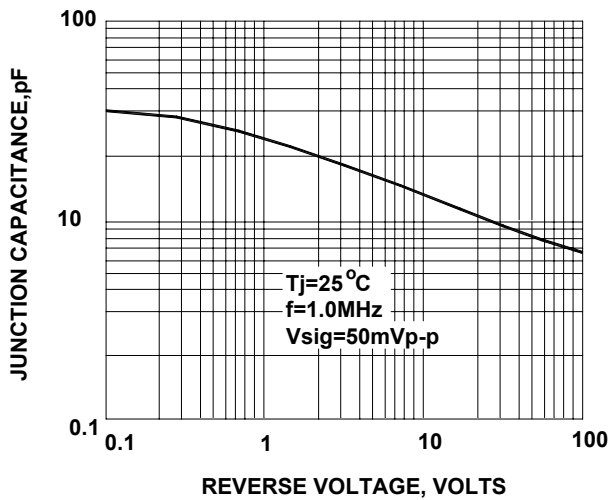
## FORWARD CHARACTERISTICS



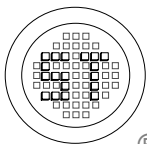
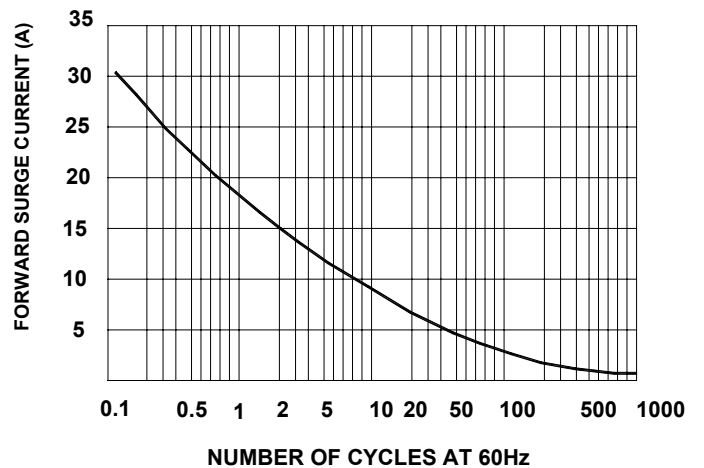
## FORWARD CURRENT DERATING CURVE



## TYPICAL JUNCTION CAPACITANCE



## PEAK FORWARD SURGE CURRENT



## 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. 550-159-04-04-04