



HER101 THRU HER108

VOLTAGE RANGE 50 to 1000 Volts  
CURRENT 1.0 Ampere

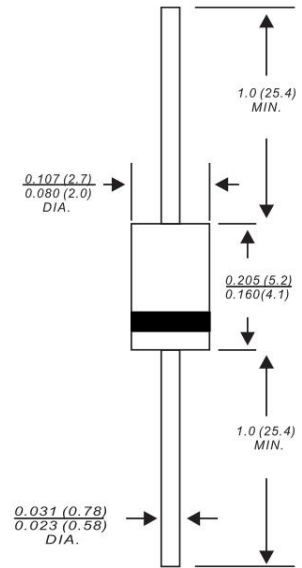
Features

- High speed switching
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High reliability
- 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: 0.012ounce, 0.33 grams

DO-41



Dimensions in inches and (millimeters)

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%

TYPE NUMBER	SYMBOL S	HER 101	HER 102	HER 103	HER 104	HER 105	HER 106	HER 107	HER 108	UNIT S	
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	300	400	600	800	1000	Volts	
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	210	280	420	560	700	Volts	
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	300	400	600	800	1000	Volts	
Maximum Average Forward Rectified Current at T <sub>A</sub> =75°C	I <sub>(AV)</sub>	1.0								Amps	
Peak Forward Surge Current 8.3mS single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	30								Amps	
Maximum Instantaneous Forward Voltage at 1.0A	V <sub>F</sub>	1.0		1.3		1.5		1.7		Volts	
Maximum DC Reverse Current at Rated DC Blocking Voltage	T <sub>A</sub> = 25°C	5.0								µA	
	T <sub>A</sub> = 100°C	100									
Maximum Reverse Recovery Time(NOTE1)	T <sub>RR</sub>	50					75				nS
Typical Junction Capacitance (NOTE 2)	C <sub>J</sub>	15					12				pF
Typical Thermal Resistance (NOTE 3)	R <sub>θJA</sub>	60								°C/W	
Operating and Storage Temperature Range	T <sub>J</sub> ,T <sub>STG</sub>	-55 to +150								°C	

Notes:

1. Reverse Recovery Test Conditions:If=0.5A,Ir=1.0A,Irr=0.25A.
2. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
3. Thermal Resistance from Junction to Ambient with 0.375"(9.5mm) lead length, PCB mounted.



# AXIAL HIGH EFFICIENCY RECTIFIER

## HER101 THRU HER108

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

1.0 Ampere

### Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

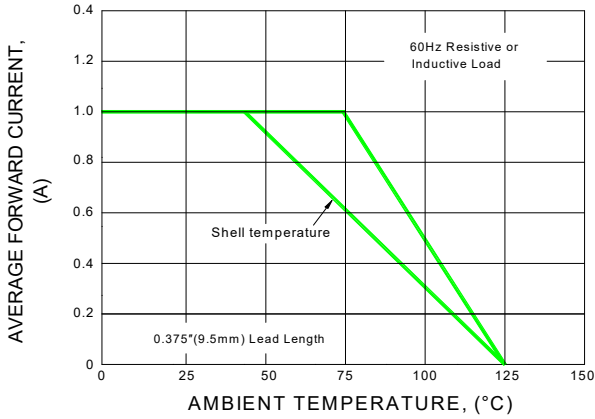


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

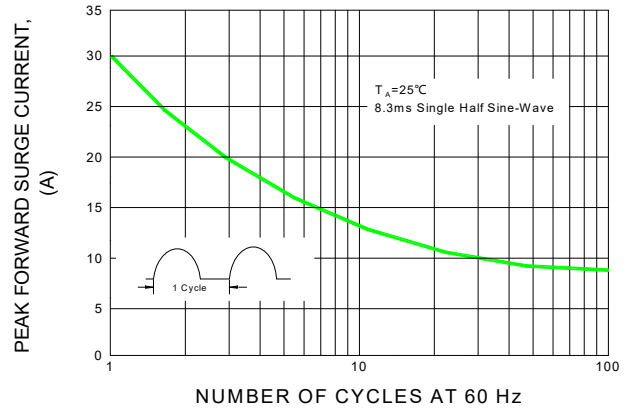


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

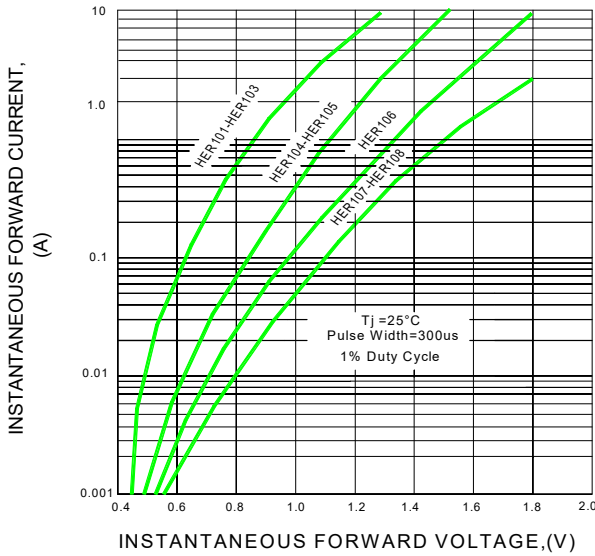


FIG.3-TYPICAL REVERSE CHARACTERISTICS

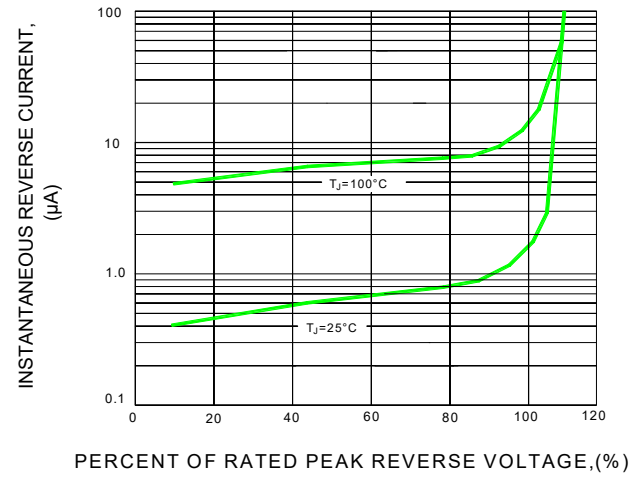


FIG.5-TYPICAL JUNCTION CAPACITANCE

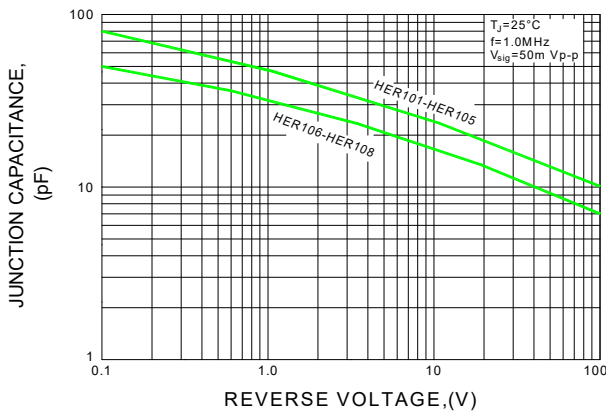
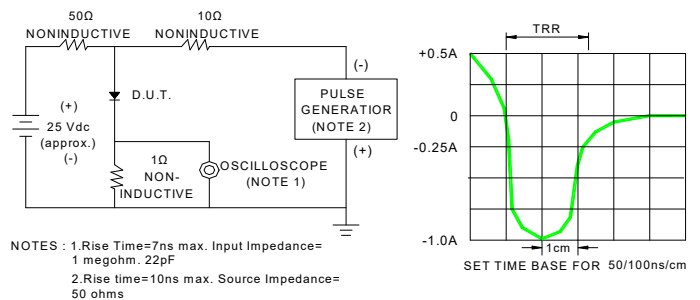
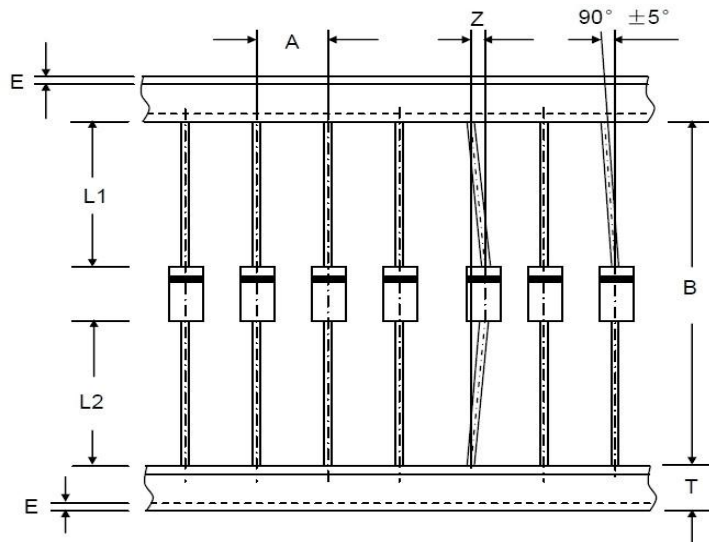


FIG.6-TEST CIRCUIT DIAGRAM AND FORWARD SURGE CURRENT





Axial Lead Taping Specifications for Rectifiers

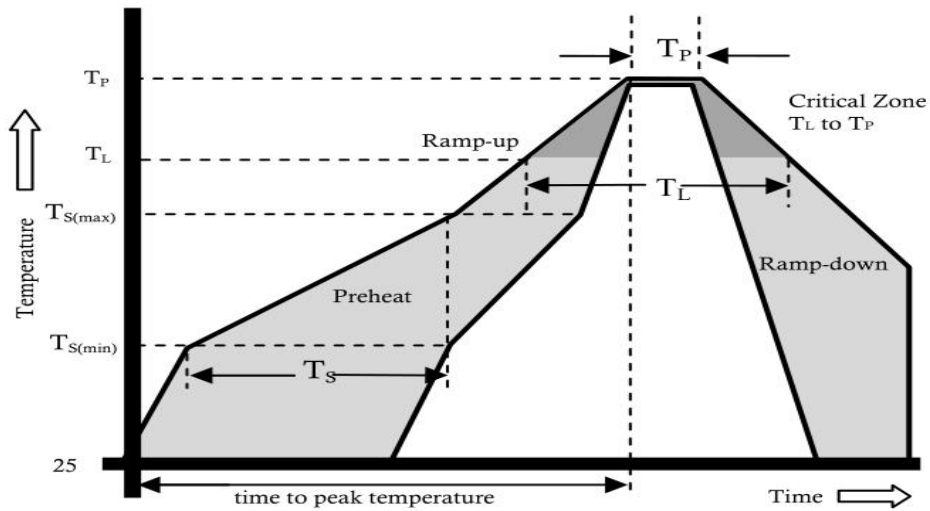


Component Outline	Component Pitch A	Inner Tape Pitch B		Cumulative Tolerance
	±0.5mm	+0.5mm	-0.4mm	
DO-204AL(DO-41)	5.0mm	52.4mm	26.0mm	2.0mm/20pitch

Item	Symbol	Specifications(mm)	Specifications(inch)
Component alignment	Z	1.2 max	0.048 max
Tape width	T	6.0±0.4	0.236±0.016
Exposed adhesive	E	0.8 max	0.032 max
Body eccentricity	L1-L2	1.0 max	0.040 max



Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp( $T_L$ ) to peak)		3°C/sec. Max.
$T_{S(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature ( $T_L$ )(Liquidus)	+217°C
	Temperature ( $T_L$ )	60-150 secs.
Peak Temp ( $T_P$ )		+(260+0/-5)°C
Time within 5°C of actual Peak Temp ( $T_P$ )		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp ( $T_P$ )		8 min. Max.
Do not exceed		+260°C



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