



HER301 THRU HER308

VOLTAGE RANGE

50 to 1000 Volts

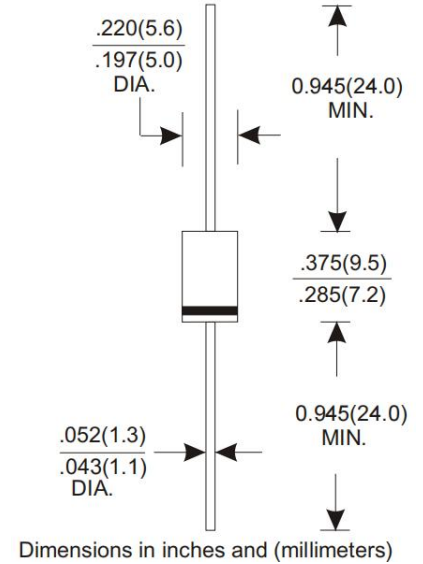
CURRENT

3.0 Ampere

Features

- Super fast switching speed
- Glass passivated chip junction
- Low power loss, high efficiency
- Low leakage
- High Surge Capacity
- High temperature soldering guaranteed
260°C/10 seconds, 0.375"(9.5mm) lead length

DO-201AD



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: 0.042ounce, 1.19 gram

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	HER 301	HER 302	HER 303	HER 304	HER 305	HER 306	HER 307	HER 308	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 $T_A=75^\circ\text{C}$	$I_{(AV)}$	3.0								Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	80								Amps
Maximum Instantaneous Forward Voltage at 3.0A	V_F	1.0		1.3		1.7				Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	$T_A = 25^\circ\text{C}$								μA
		$T_A = 125^\circ\text{C}$								
Maximum Reverse Recovery Time ^(NOTE 1)	T_{RR}	50				75				nS
Typical Junction Capacitance ^(NOTE 2)	C_J	70				50				pF
Typical Thermal Resistance ^(NOTE 3)	$R_{\theta JA}$	30								$^\circ\text{C}/\text{W}$
Operating 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 4.0V.
3. Thermal Resistance from Junction to Ambient with 0.375"(9.5mm) lead length, PCB mounted.



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

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

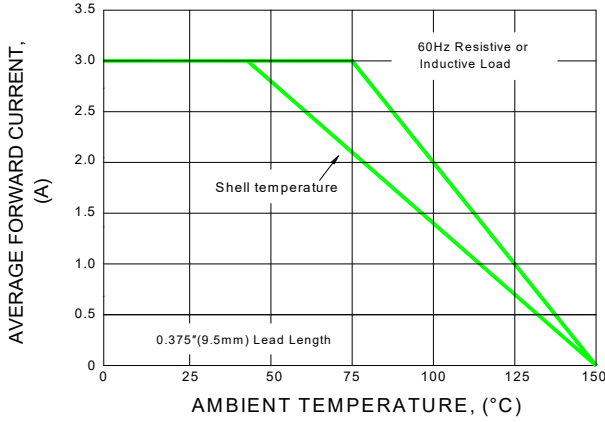


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

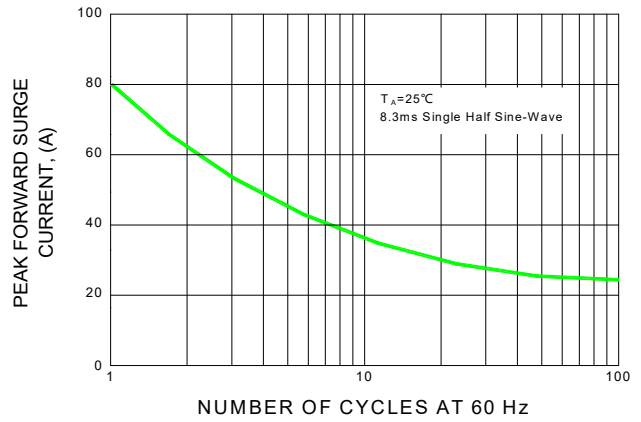


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

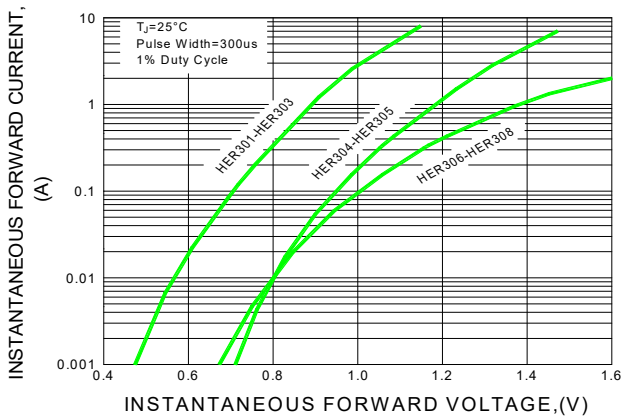


FIG.3-TYPICAL REVERSE CHARACTERISTICS

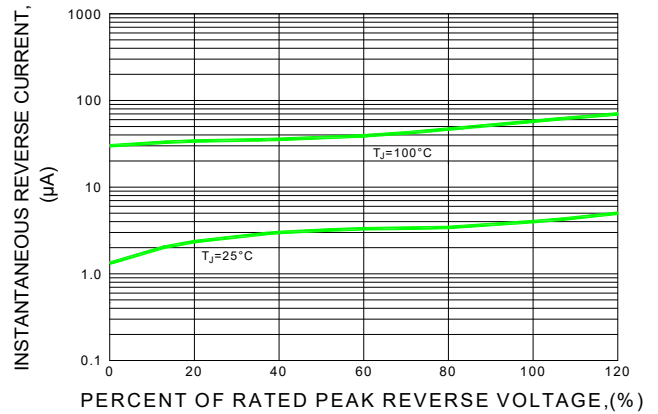


FIG.5-TYPICAL JUNCTION CAPACITANCE

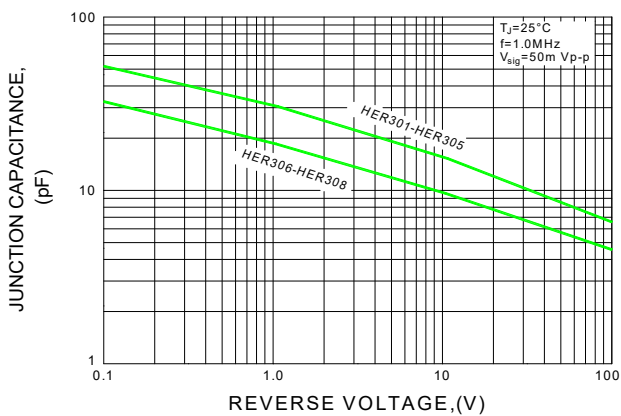
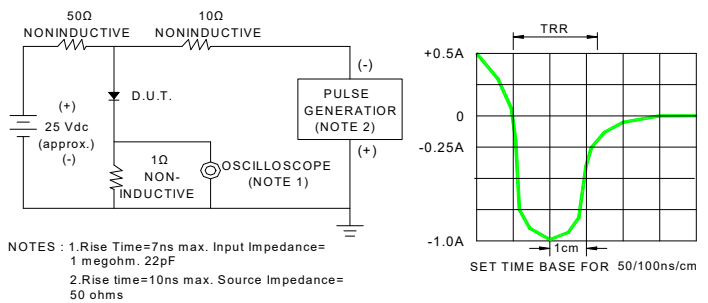
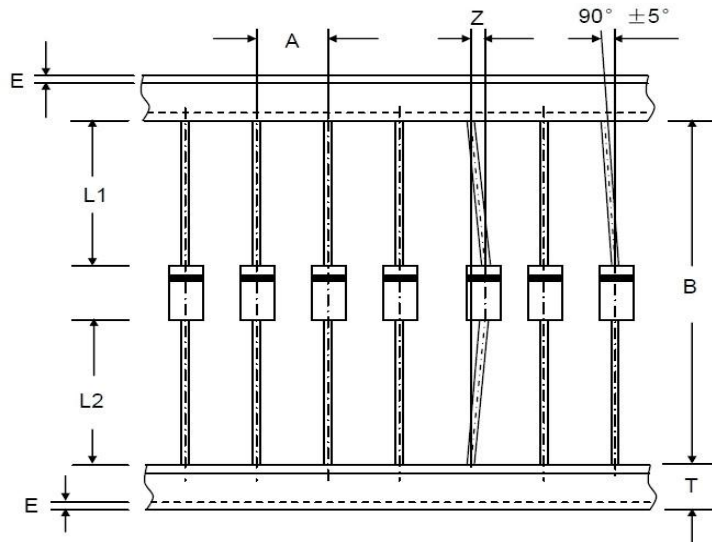


FIG.6-TEST CIRCUIT DIAGRAM AND FORWARD SURGE CURRENT





Axial Lead Taping Specifications for Rectifiers

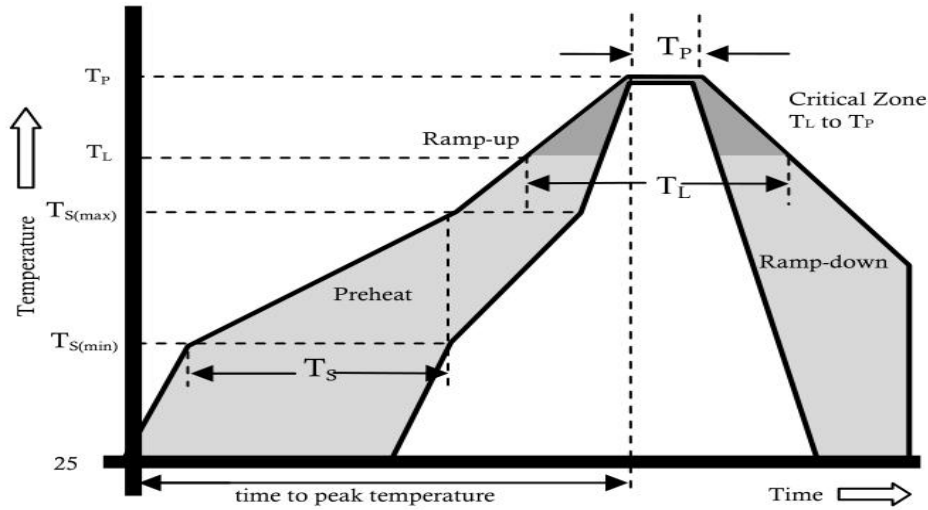


Component Outline	Component Pitch A	Inner Tape Pitch B	Cumulative Tolerance
	±0.5mm	+0.5mm -0.4mm	
DO-201AD(DO-27)	10.0mm	52.4mm	2.0mm/20pitch

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(TL) to peak)		3°C/sec. Max.
TS(max) to TL - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature (TL)(Liquidus)	+217°C
	Temperature (TL)	60-150 secs.
Peak Temp (TP)		+(260+0/-5)°C
Time within 5°C of actual Peak Temp (TP)		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp (TP)		8 min. Max.
Do not exceed		+260°C



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Disclaimer

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