TAIWAN SEMICONDUCTOR

The Smartest Choice

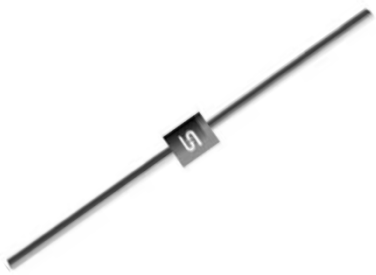
HER301 - HER307

3.0AMPS High Efficient Rectifiers

DO-201AD

Features

- ✧ High efficiency, Low VF
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability
- ✧ For use in low voltage, high frequency inverter, free wheeling, and polarity protection application
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode



Pb-Free

RoHS COMPLIANT

Mechanical Data

- ✧ Case: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Pure tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode
- ✧ Solder dip 260℃ max.10s per JESD 22-B106
- ✧ Weight: 1.2 grams

Ordering Information (example)

Part No.	Package	Packing	INNER TAPE	Packing code	Packing code (Green)
HER301	DO-201AD	500 / AMMO box	52mm	A0	A0G

Maximum Ratings and Electrical Characteristics

Rating at 25 ℃ ambient temperature unless otherwise specified.

Parameter	Symbol	HER 301	HER 302	HER 303	HER 304	HER 305	HER 306	HER 307	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	300	400	600	800	V
Maximum RMS Voltage	V_{RMS}	35	70	140	210	280	420	560	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	300	400	600	800	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	3							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150							A
Maximum Instantaneous Forward Voltage (Note 1) @ 3 A	V_F	1.0				1.3	1.7		V
Maximum Reverse Current @ Rated VR T_A=25 ℃ T_A=125 ℃	I_R	10 250							uA
Maximum Reverse Recovery Time (Note 2)	Trr	50					75		nS
Typical Junction Capacitance (Note 3)	Cj	70					50		pF
Typical Thermal Resistance	$R_{\theta jA}$ $R_{\theta jC}$ $R_{\theta jL}$	40 7 10							^{O}C/W
Operating Temperature Range	T_J	- 55 to + 150							^{O}C
Storage Temperature Range	T_{STG}	- 55 to + 150							^{O}C

Note 1: Pulse Test with PW=300 usec, 1% Duty Cycle

Note 2: Reverse Recovery Test Conditions: IF=0.5A, IR=1.0A, IRR=0.25A

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

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RATINGS AND CHARACTERISTIC CURVES (HER301 THRU HER307)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

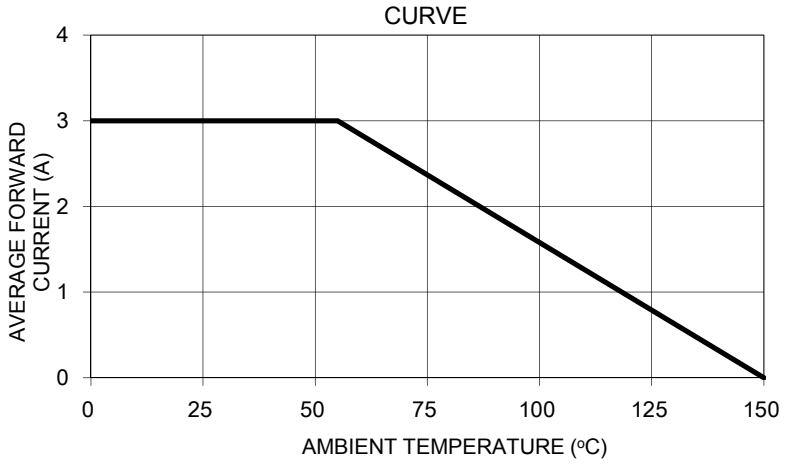


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

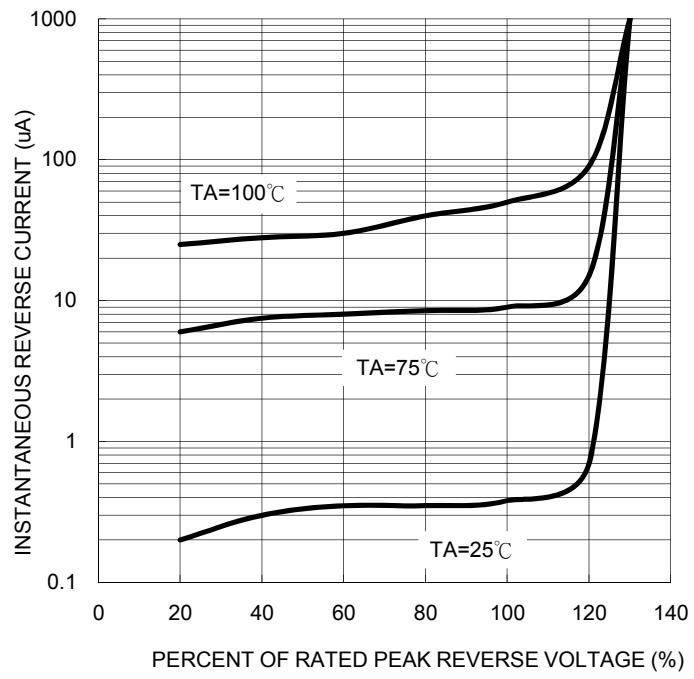


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

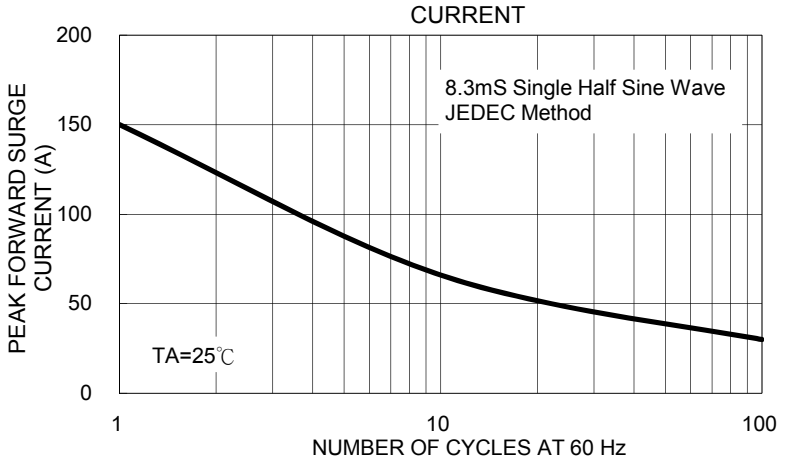


FIG. 5 TYPICAL FORWARD CHARACTERISTICS

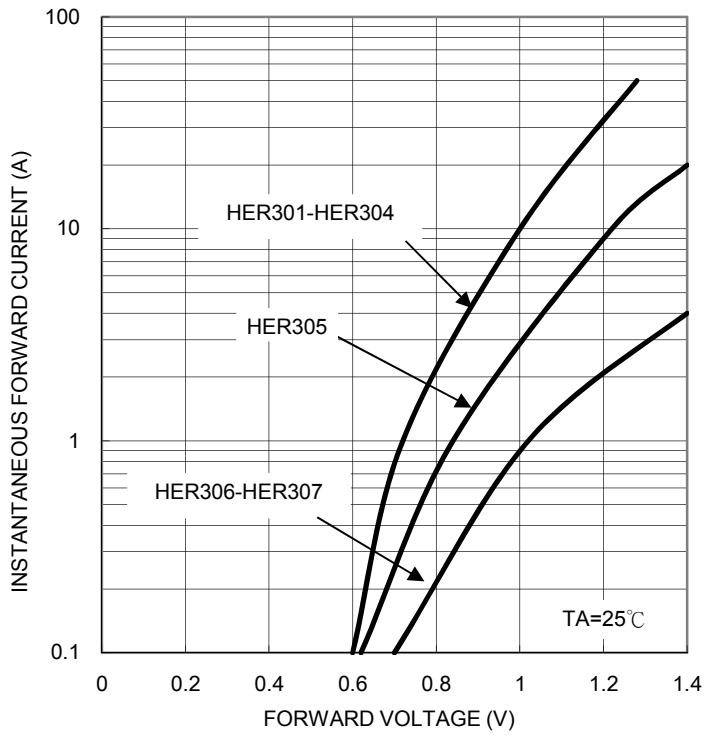


FIG. 4 TYPICAL JUNCTION CAPACITANCE

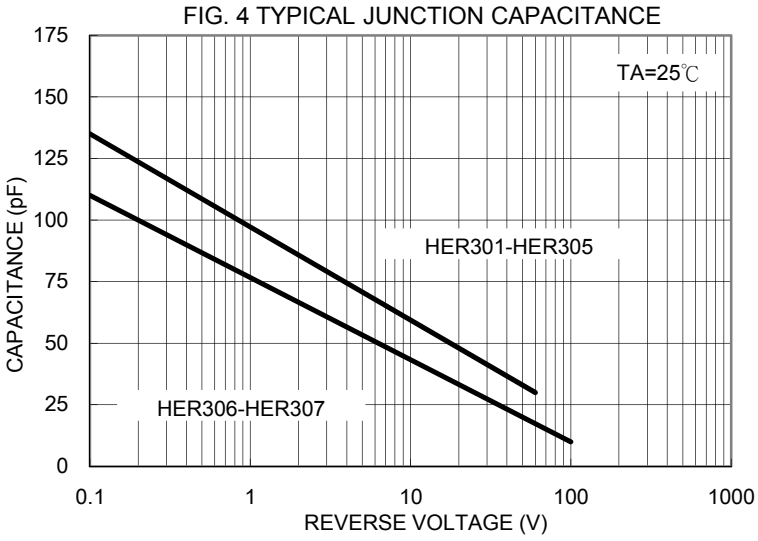
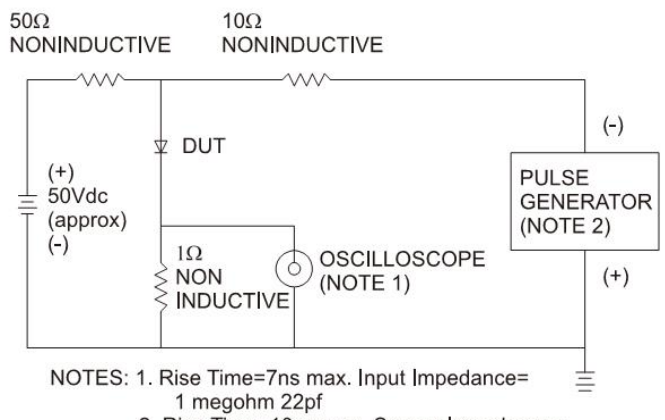
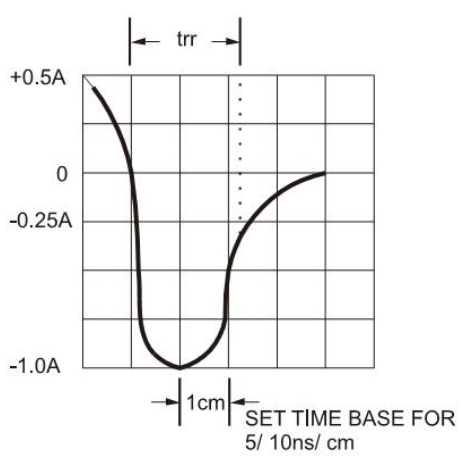


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM





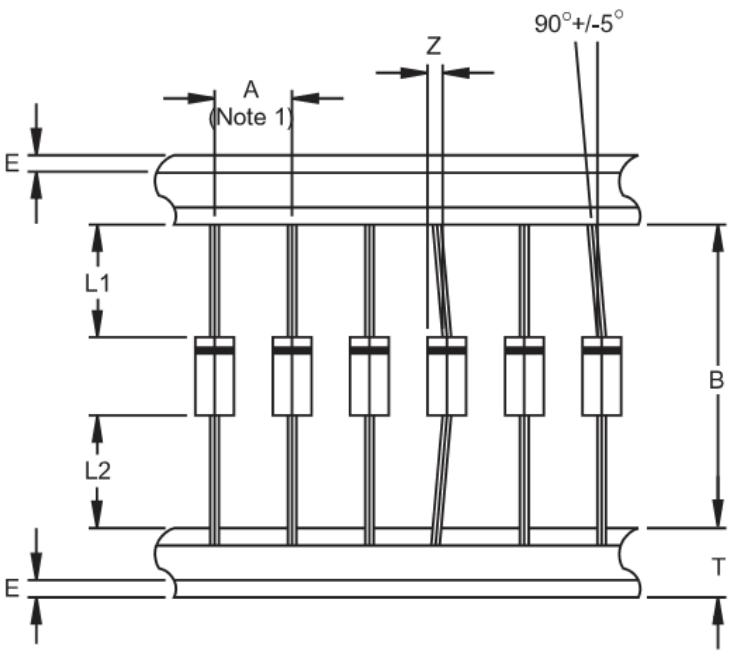
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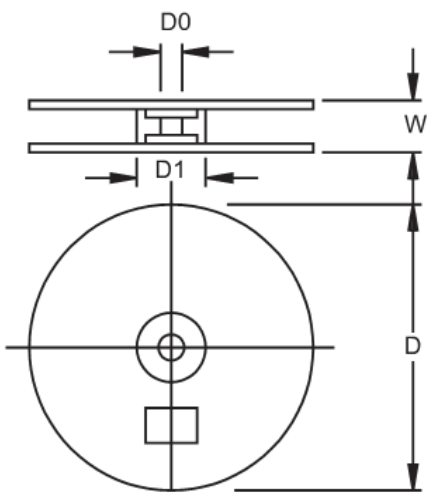
Ordering information

Part No.	Package	Packing	INNER TAPE	Packing code	Packing code (Green)
HER30x (Note)	DO-201AD	500 / AMMO box	52mm	A0	A0G
	DO-201AD	1.25K / 13" Reel	52mm	R0	R0G
	DO-201AD	500 / Bulk packing		B0	B0G
	DO-201AD	Forming		X0	X0G

Note: "x" is Device Code from "1" thru "7".

AXIAL LEAD TAPING SPECIFICATIONS

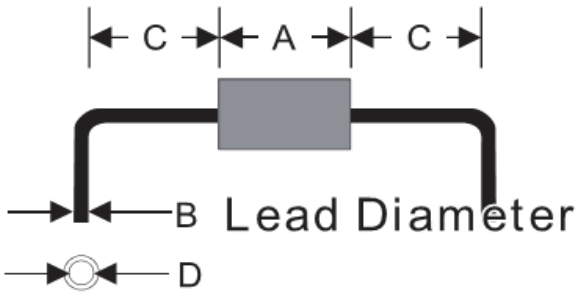




Outline	A	B	Z	T	E	L1-L2	D	D1	D0	W
	±0.5	±1.5	MAX	±0.4	MAX	MAX		±0.3	±0.4	±1.0
DO-201AD	10	52.4	1.2	6	0.8	1	330	85.7	16.6	76

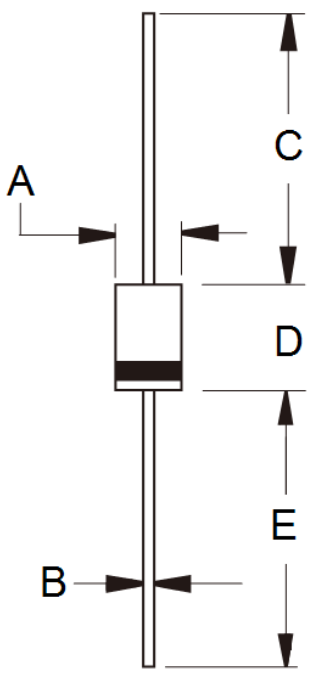
Unit (mm)

Suggested Mounting Hole Rule



Symbol	Unit(mm)
A	9.0
B	1.2
C	4.0
D	1.6

Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	5.00	5.60	0.197	0.220
B	1.20	1.30	0.048	0.052
C	25.40	-	1.000	-
D	8.50	9.50	0.335	0.375
E	25.40	-	1.000	-

Marking Diagram



P/N = Specific Device Code
G = Green Compound
YWW = Date Code
F = Factory Code