TAIWAN SEMICONDUCTOR

The Smartest Choice

HER101S - HER108S

1.0AMP. High Efficient Rectifiers

A-405

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

- ✧ Cases: Molded plastic A-405
- ✧ 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
- ✧ High temperature soldering guaranteed: 260℃/10s
- ✧ Weight: 0.22 grams

Ordering Information (example)

Part No.	Package	Packing	INNER TAPE	Packing code	Packing code (Green)
HER101S	A-405	5K / 13" Reel	52mm	R0	R0G

Maximum Ratings and Electrical Characteristics

Rating at 25 ℃ ambient temperature unless otherwise specified.

Parameter	Symbol	HER 101S	HER 102S	HER 103S	HER 104S	HER 105S	HER 106S	HER 107S	HER 108S	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	300	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	210	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	300	400	600	800	1000	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	1								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	30								A
Maximum Instantaneous Forward Voltage (Note 1) @ 1 A	V_F	1.0				1.3	1.7			V
Maximum DC Reverse Current @ T_A=25 ℃	I_R	5								uA
at Rated DC Blocking Voltage @ T_A=125 ℃		150								uA
Maximum Reverse Recovery Time (Note 2)	Trr	50					75			nS
Typical Junction Capacitance (Note 3)	Cj	20					15			pF
Typical Thermal Resistance	$R_{\theta JA}$	100								^{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.

TAIWAN SEMICONDUCTOR
The Smartest Choice

RATINGS AND CHARACTERISTIC CURVES (HER101S THRU HER108S)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

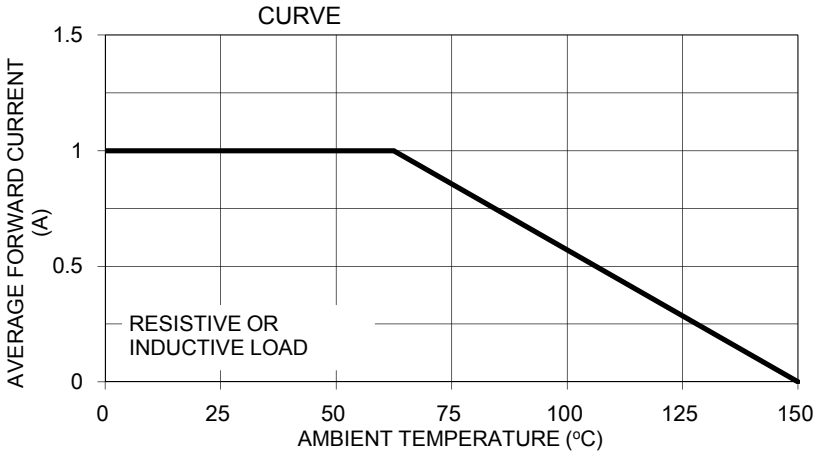


FIG. 2- TYPICAL REVERSE CHARACTERISTICS

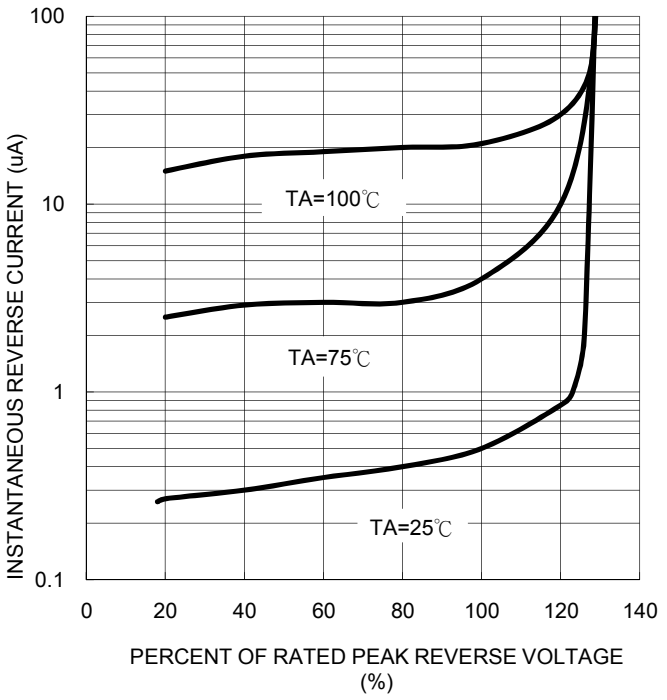


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

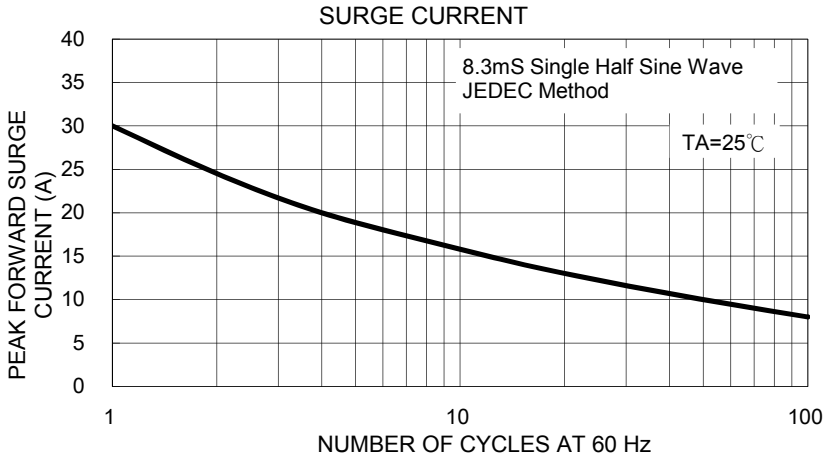


FIG. 4- TYPICAL JUNCTION CAPACITANCE

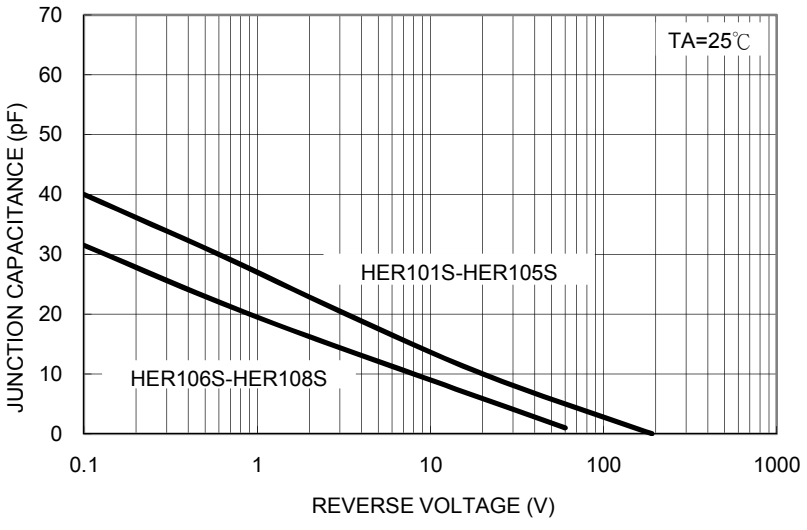


FIG. 5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

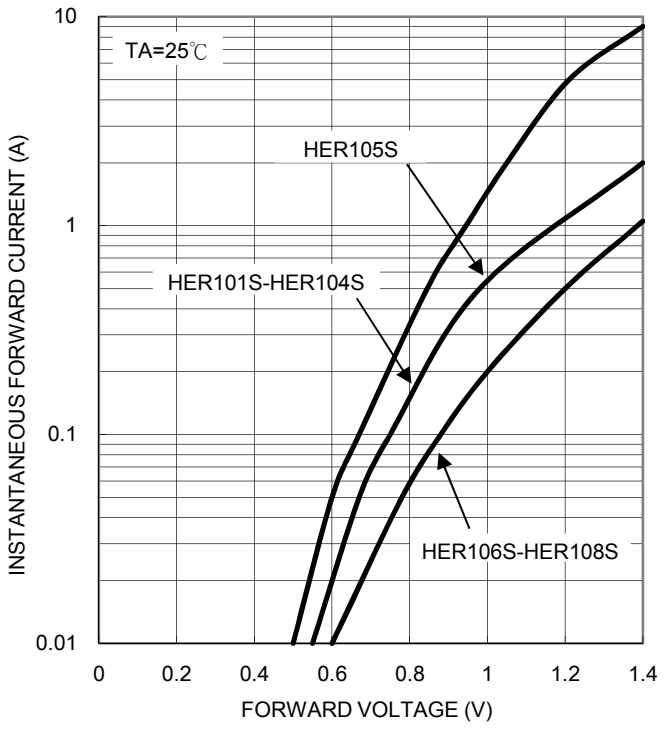
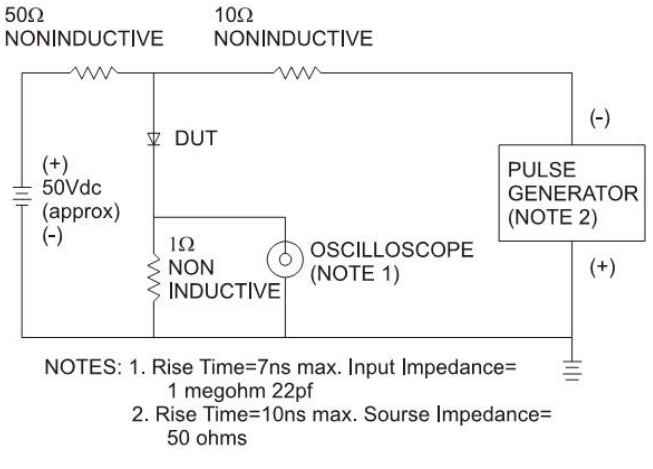
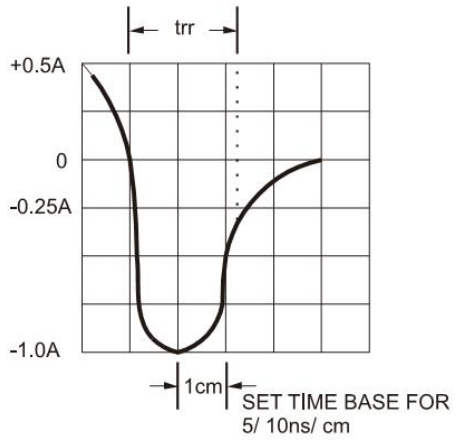


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM





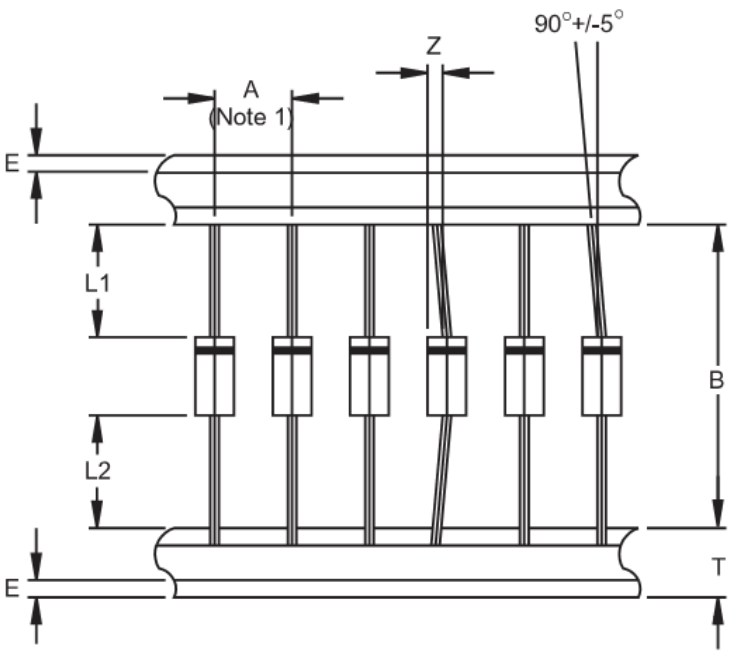
TAIWAN SEMICONDUCTOR
The Smartest Choice

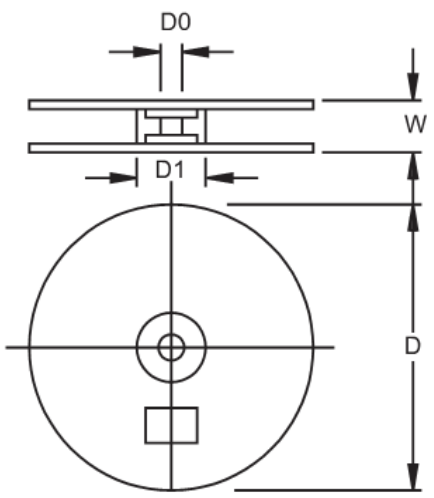
Ordering information

Part No.	Package	Packing	INNER TAPE	Packing code	Packing code (Green)
HER10xS (Note)	A-405	2K / AMMO box		P0	P0G
	A-405	2K / AMMO box		P1	P1G
	A-405	5K / 13" Reel	52mm	R0	R0G
	A-405	1K / Bulk packing		B0	B0G

Note: "x" is Device Code from "1" thru "8".

AXIAL LEAD TAPING SPECIFICATIONS

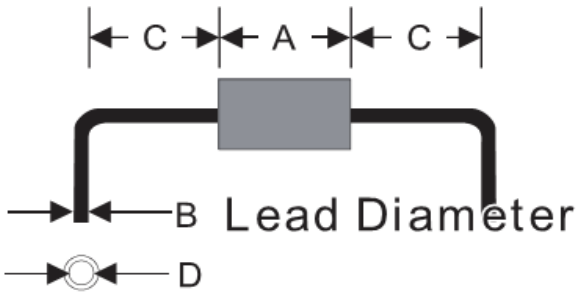




Outline	A	B	Z	T	E	L1-L2	D	D1	D0	W
	±0.5	±1.5	MAX	±0.4	MAX	MAX		±0.3	±0.4	±1.0
A-405	5	52.4	1.2	6	0.8	1	330	85.7	16.6	76

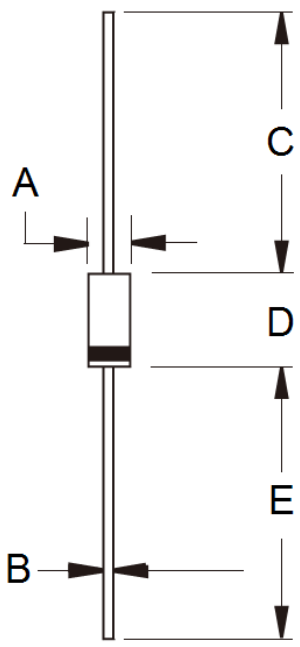
Unit (mm)

Suggested Mounting Hole Rule



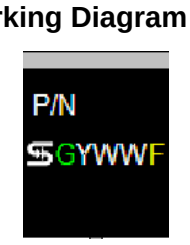
Symbol	Unit(mm)
A	4.7
B	0.6
C	3.0
D	1

Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	2.00	2.70	0.079	0.106
B	0.53	0.64	0.021	0.025
C	25.40	-	1.000	-
D	4.20	5.20	0.165	0.205
E	25.40	-	1.000	-

Marking Diagram



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