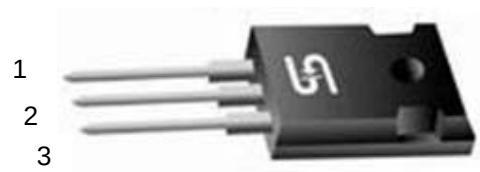
TAIWAN SEMICONDUCTOR

The Smartest Choice

HER1601PT - HER1608PT

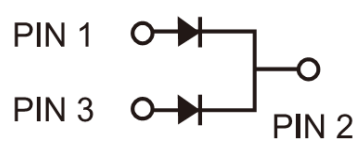
16.0AMPS. Glass Passivated High Efficient Rectifiers

TO-3P/TO-247AD



Pb-Free

RoHS COMPLIANT



Features

- ✧ UL Recognized File # E-326243
- ✧ Dual rectifier construction, positive center-tap
- ✧ Plastic package has Underwriters Laborator Flammability Classification 94V-0
- ✧ Glass passivated chip junction
- ✧ Superfast recovery time, high voltage
- ✧ Low forward voltage, high current capability
- ✧ Low thermal resistance
- ✧ Low power loss, high efficiency
- ✧ High temperature soldering guaranteed: 260℃, 0.16"(4.06mm) from case for 10 seconds
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode

Mechanical Data

- ✧ Cases: TO-3P/TO-247AD Molded plastic
- ✧ Terminals: Pure tin plated, lead free, solderable per MIL-STD-750, Method 2026
- ✧ Polarity: As marked
- ✧ Mounting position: Any
- ✧ Mounting torque: 10in-lbs Max
- ✧ Weight: 5.6 grams

Ordering Information (example)

Part No.	Package	Packing	Packing code	Packing code (Green)
HER1601PT	TO-3P	30 / TUBE	C0	C0G

Maximum Ratings and Electrical Characteristics

Rating at 25 ℃ ambient temperature unless otherwise specified.

Parameter	Symbol	HER 1601PT	HER 1602PT	HER 1603PT	HER 1604PT	HER 1605PT	HER 1606PT	HER 1607PT	HER 1608PT	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	$I_{F(AV)}$	16								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	200								A
Maximum Instantaneous Forward Voltage (Note 1) @ 8 A	V_F	1.0				1.3	1.7			V
Maximum DC Reverse Current @ T_A=25 ℃	I_R	10								uA
at Rated DC Blocking Voltage @ T_A=125 ℃		500								uA
Maximum Reverse Recovery Time (Note 2)	Trr	50					80			nS
Typical Junction Capacitance (Note 3)	Cj	85					60			pF
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 4.0 Volts

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RATINGS AND CHARACTERISTIC CURVES (HER1601PT THRU HER1608PT)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

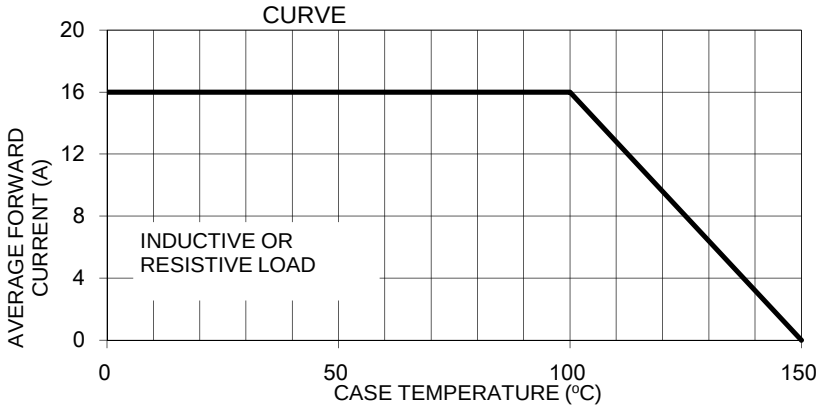


FIG. 2 TYPICAL REVERSE CHARACTERISTICS PER LEG

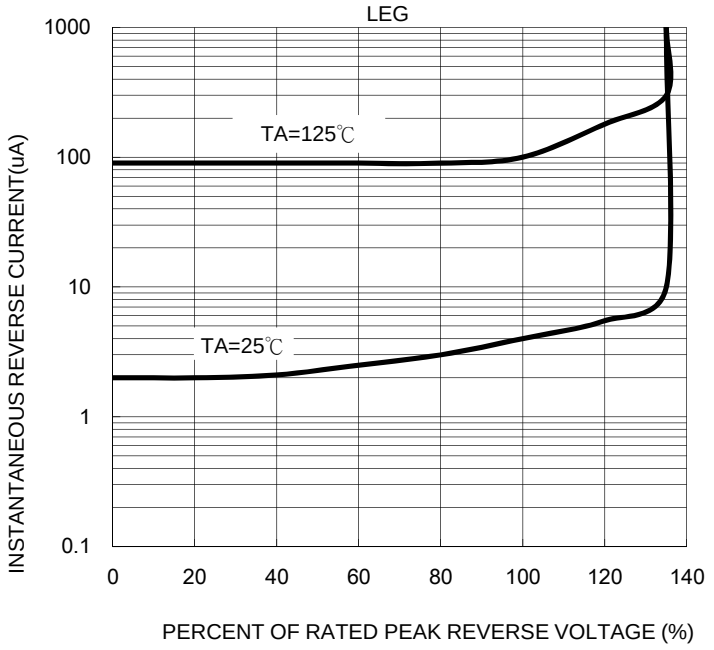


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

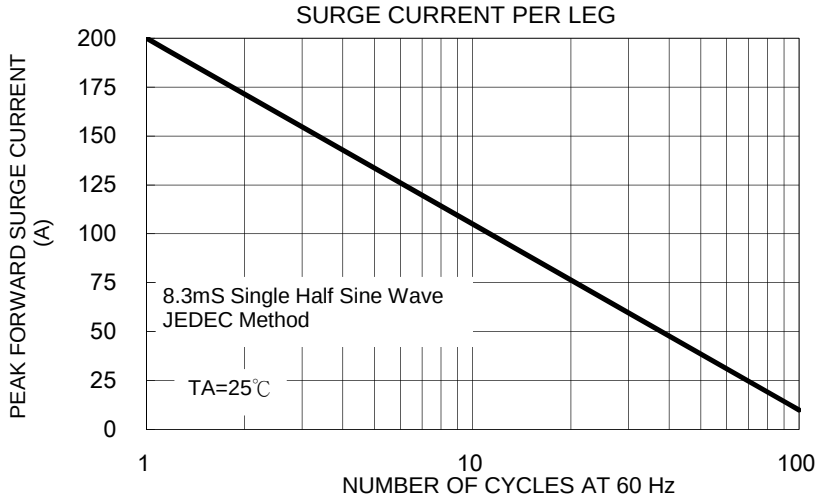


FIG. 4- TYPICAL JUNCTION CAPACITANCE PER LEG

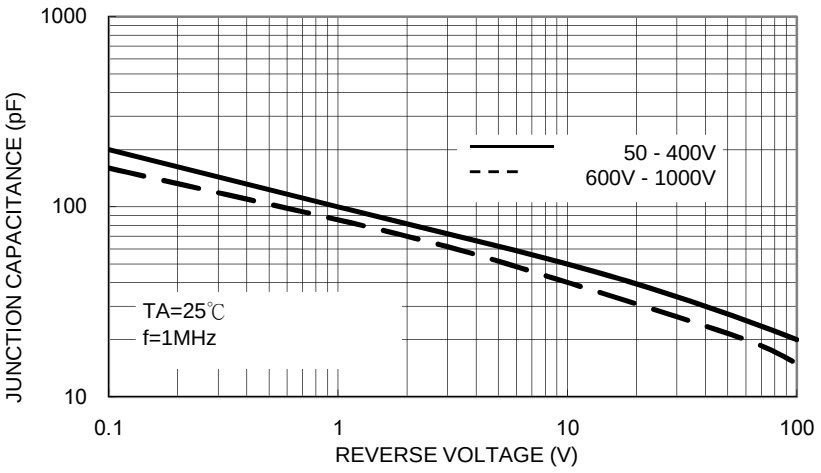


FIG. 5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

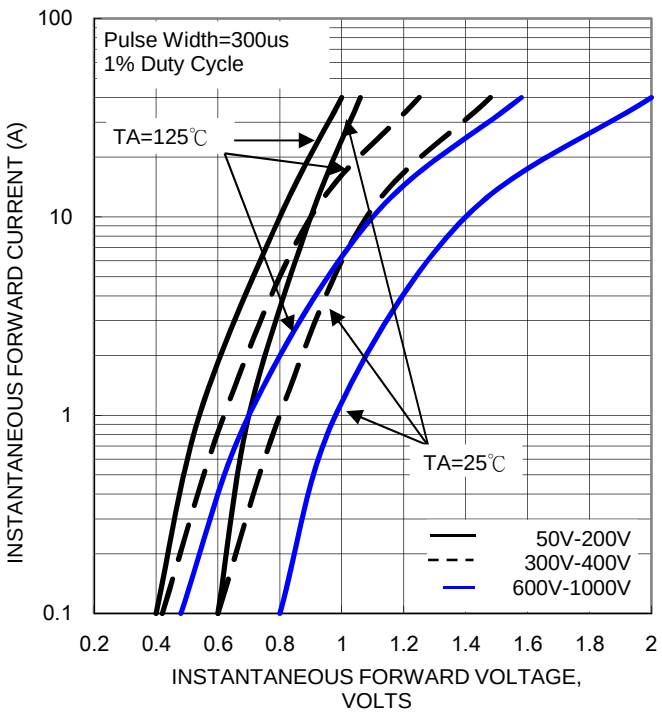
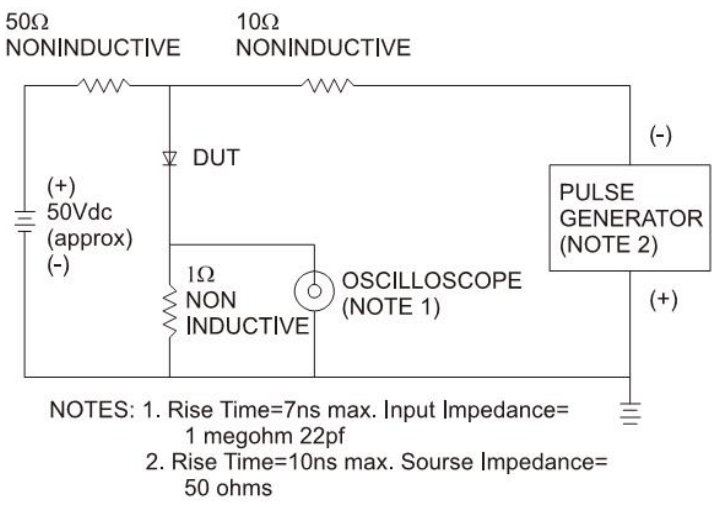
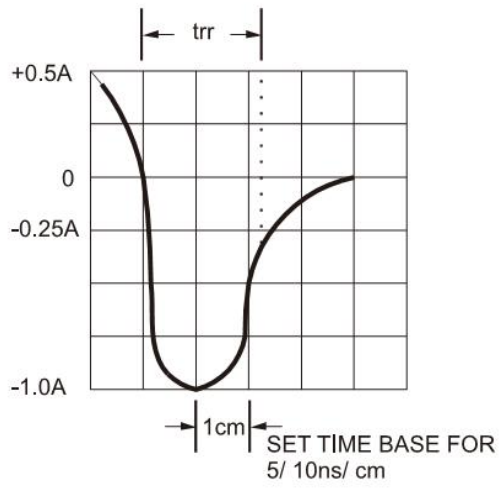


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



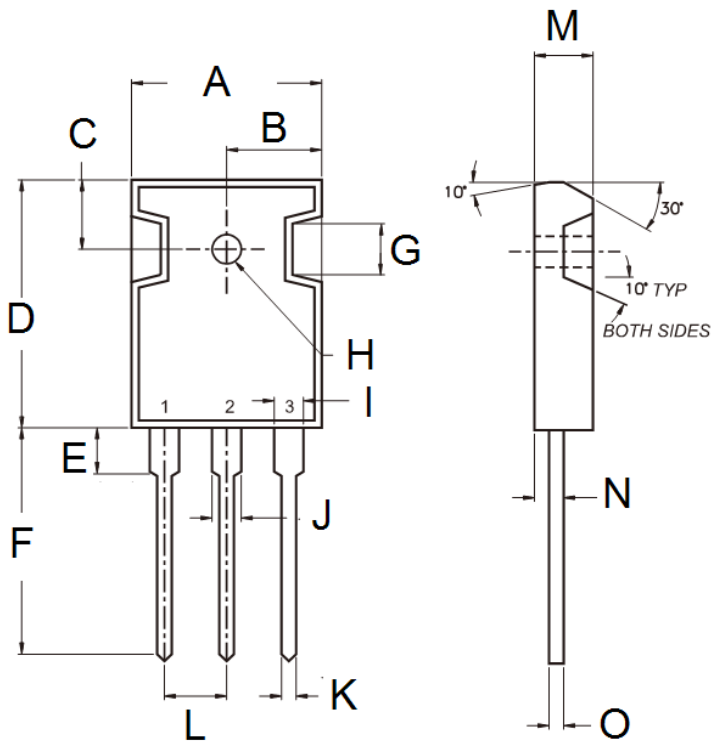


Ordering information

Part No.	Package	BULK Packing	Packing code	Packing code (Green)
HER160xPT	TO-3P	30 / TUBE	C0	C0G

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

Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	15.90	16.40	0.626	0.646
B	7.90	8.20	0.311	0.323
C	5.70	6.20	0.224	0.244
D	20.80	21.30	0.819	0.839
E	3.50	4.10	0.138	0.161
F	19.70	20.20	0.776	0.795
G	-	4.30	-	0.169
H	2.90	3.40	0.114	0.134
I	1.93	2.18	0.076	0.086
J	2.97	3.22	0.117	0.127
K	1.12	1.22	0.044	0.048
L	5.20	5.70	0.205	0.224
M	4.90	5.16	0.193	0.203
N	2.70	3.00	0.106	0.118
O	0.51	0.76	0.020	0.030

Marking Diagram

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