TAIWAN SEMICONDUCTOR

RoHS COMPLIANCE

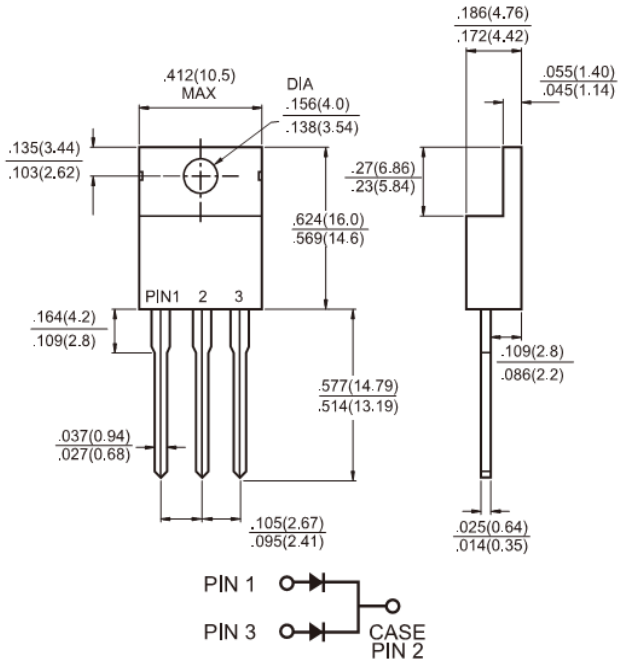
HER1601G - HER1608G

16.0AMPS. Glass Passivated High Efficient Rectifiers

TO-220AB

Features

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



Dimensions in inches and (millimeters)

Mechanical Data

- ✧ Cases: TO-220AB Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Terminals: Pure tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: As marked
- ✧ High temperature soldering guaranteed: 260℃/10 seconds .16", (4.06mm) from case
- ✧ Weight: 2.24 grams

Marking Diagram

HER160XG	= Specific Device Code
G	= Green Compound
Y	= Year
WW	= Work Week

Maximum Ratings and Electrical Characteristics

Rating at 25 ℃ ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%

Type Number	Symbol	HER 1601G	HER 1602G	HER 1603G	HER 1604G	HER 1605G	HER 1606G	HER 1607G	HER 1608G	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}	125								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 ℃ at Rated DC Blocking Voltage @ T_A=125 ℃	I_R	10 400								uA
Maximum Reverse Recovery Time (Note 2)	Trr	50					80			nS
Typical Junction Capacitance (Note 3)	Cj	80					50			pF
Typical Thermal Resistance	$R_{\theta JC}$	1.5								^{O}C/W
Operating Temperature Range	T_J	- 65 to + 150								^{O}C
Storage Temperature Range	T_{STG}	- 65 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.

RATINGS AND CHARACTERISTIC CURVES (HER1601G THRU HER1608G)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

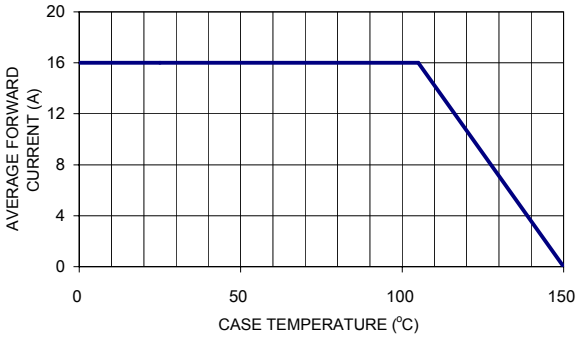


FIG. 2- TYPICAL REVERSE CHARACTERISTICS PER LEG

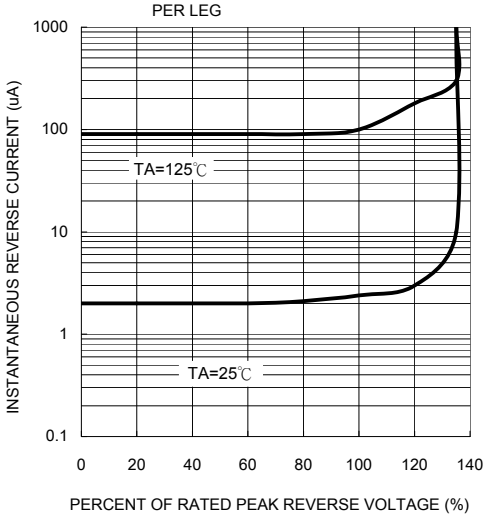


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

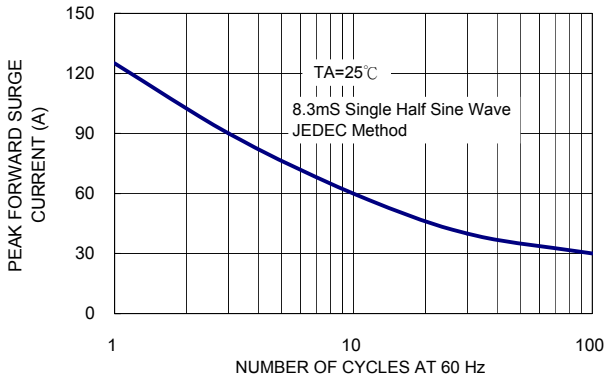


FIG. 5- TYPICAL FORWARD CHARACTERISRICS PER LEG

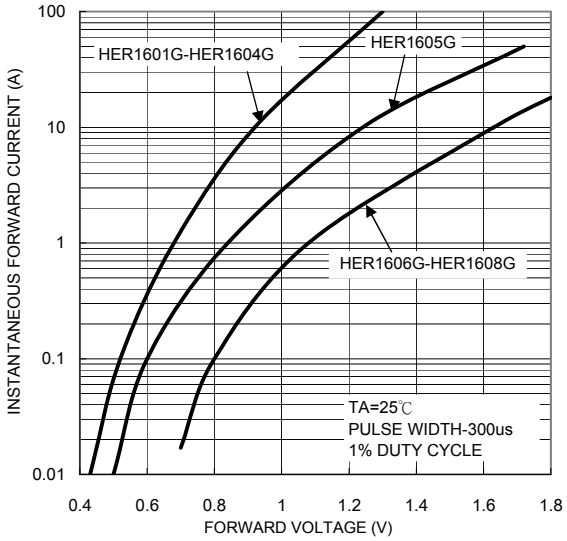


FIG. 4- TYPICAL JUNCTION CAPACITANCE PER LEG

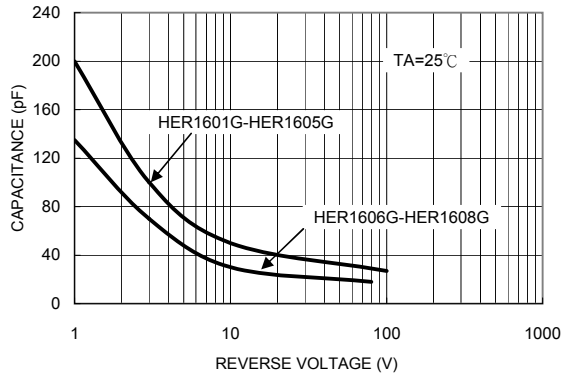
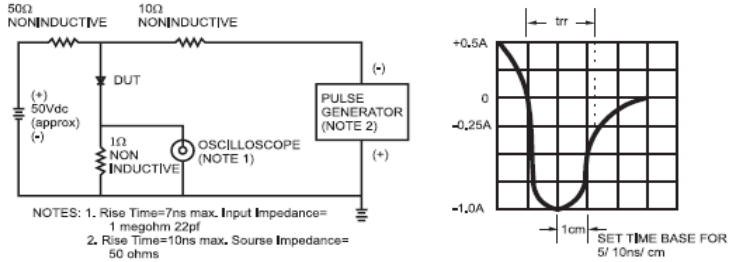


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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