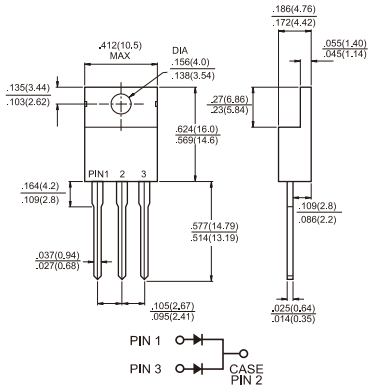
TAIWAN SEMICONDUCTOR

HER1601G - HER1608G

16.0 AMPS. Glass Passivated High Efficient Rectifiers

RoHS COMPLIANCE

TO-220AB



Dimensions in inches and (millimeters)

Features

- ✧ UL Recognized File # E-326243
- ✧ 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.

Mechanical Data

- ✧ Cases: TO-220AB molded plastic
- ✧ Epoxy: UL 94V0 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°C/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 °C 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 @T_C =100 °C	$I_{F(AV)}$	16.0								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 @8.0A	V_F	1.0			1.3		1.7			V
Maximum DC Reverse Current at Rated DC Blocking Voltage @T_A=25 °C (Note 1) @ T_A=125 °C	I_R	10 400								uA uA
Typical Reverse Recovery Time (Note 4)	Trr	50					80			nS
Typical Junction Capacitance (Note 2)	Cj	80					50			pF
Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	1.5								°C/W
Operating Temperature Range	T_J	-65 to +150								°C
Storage Temperature Range	T_{STG}	-65 to +150								°C

Notes: 1. Pulse Test with PW=300 usec,1% Duty Cycle
2. Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.
3. Mounted on Heatsink Size of 4 in x 6 in x 0.25 in Al-Plate.
4. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

RATINGS AND CHARACTERISTIC CURVES (HER1601G THRU HER1608G)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

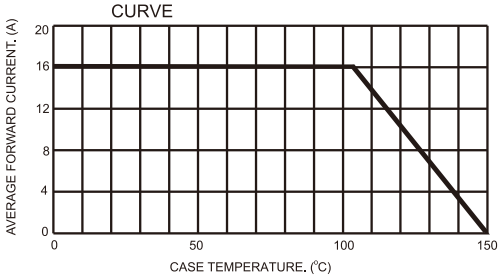


FIG.2- TYPICAL REVERSE CHARACTERISTICS PER LEG

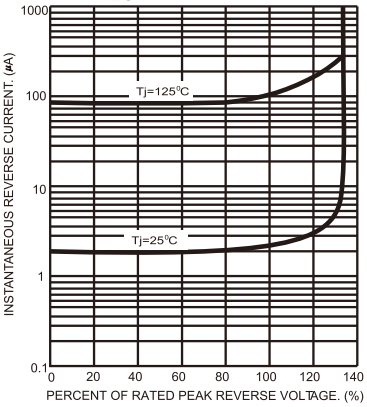


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

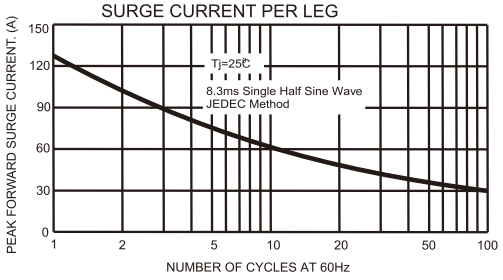


FIG.4- TYPICAL JUNCTION CAPACITANCE PER LEG

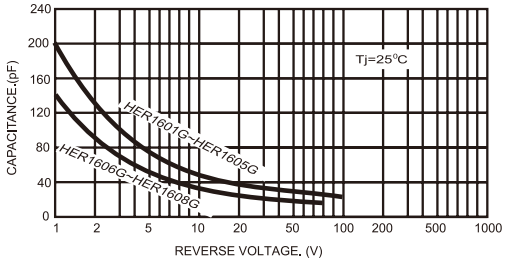


FIG.5- TYPICAL FORWARD CHARACTERISTICS PER LEG

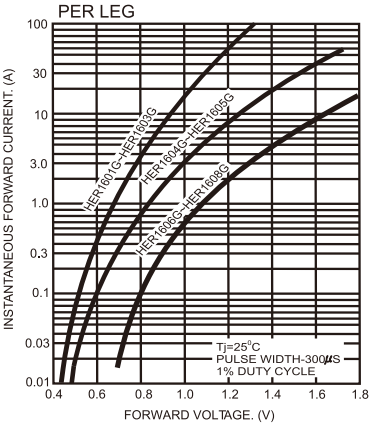


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM