TAIWAN SEMICONDUCTOR

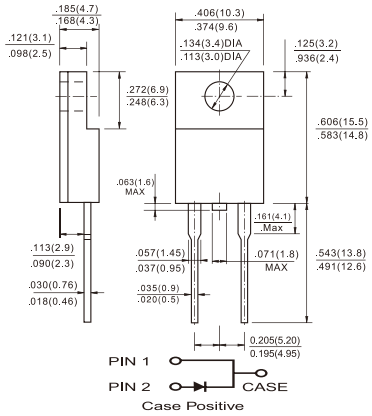
RoHS COMPLIANCE

HERAF1601G - HERAF1608G

Isolated 16.0 AMPS.

Glass Passivated High Efficient Rectifiers

ITO-220AC



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: ITO-220AC 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 0.25",(6.35mm) from case.
- ✧ Mounting torque : 5 in – 1bs. max.
- ✧ Weight: 2.24 grams

Marking Diagram

HERAF160XG= 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	HERAF 1601G	HERAF 1602G	HERAF 1603G	HERAF 1604G	HERAF 1605G	HERAF 1606G	HERAF 1607G	HERAF 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								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	250								A
Maximum Instantaneous Forward Voltage @16.0A	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
Maximum Reverse Recovery Time (Note 4)	Trr	50					80			nS
Typical Junction Capacitance (Note 2)	Cj	150					110			pF
Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	2.0								°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 2 in x 3 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 (HERAF1601G THRU HERAF1608G)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

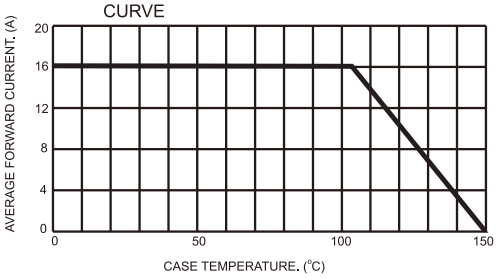


FIG.2- TYPICAL REVERSE CHARACTERISTICS

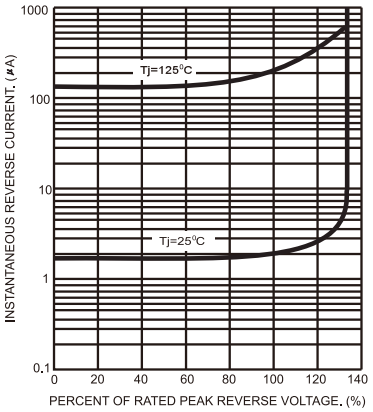


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

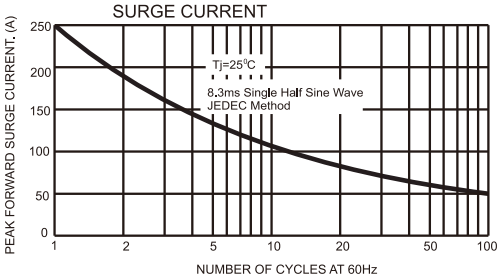


FIG.5- TYPICAL FORWARD CHARACTERISTICS

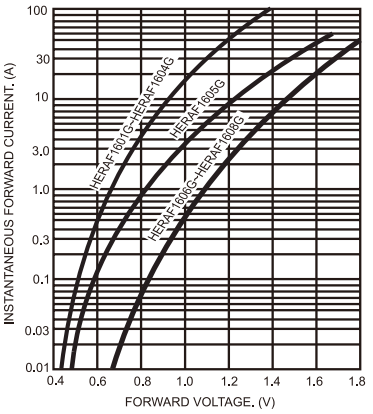


FIG.4- TYPICAL JUNCTION CAPACITANCE

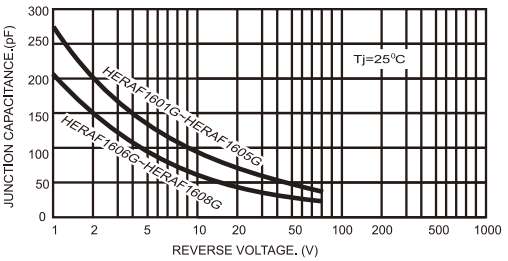


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM