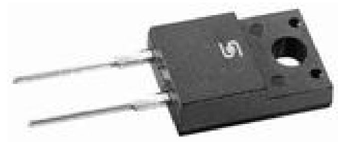
TAIWAN SEMICONDUCTOR
The Smartest Choice

HERAF1601G - HERAF1608G

16.0AMPS. Isolated Glass Passivated High Efficient Rectifiers

ITO-220AC



Pb-Free

RoHS COMPLIANT

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 inverter, 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 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 0.25", (6.35mm) from case
- ✧ Mounting torque: 5 in-lbs. max
- ✧ Weight: 1.74 grams

Ordering Information(example)

Part No.	Package	Packing	Packing code	Packing code (Green)
HERAF1001G	ITO-220AC	50 / TUBE	C0	C0G

Maximum Ratings and Electrical Characteristics

Rating at 25 ℃ ambient temperature unless otherwise specified.

Parameter	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	$I_{F(AV)}$	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 (Note 1) @ 16 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 ℃		400								uA
Maximum Reverse Recovery Time (Note 2)	Trr	50					80			nS
Typical Junction Capacitance (Note 3)	Cj	150					110			pF
Typical Thermal Resistance	$R_{\theta JC}$	2.0								^{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: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

Version:G13

RATINGS AND CHARACTERISTIC CURVES (HERAF1601G THRU HERAF1608G)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

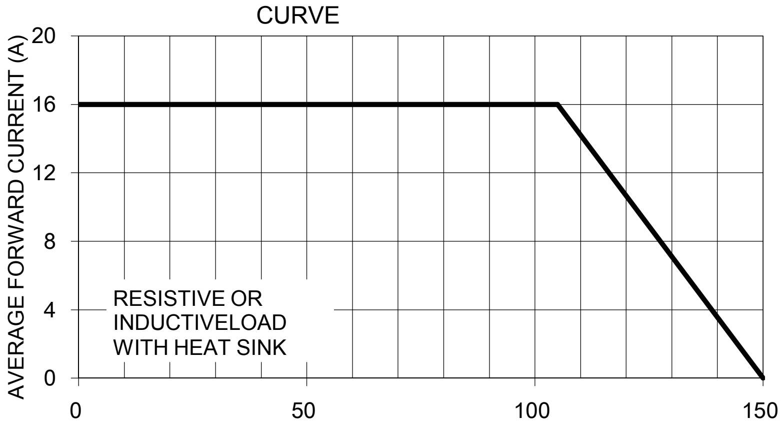


FIG. 2- TYPICAL REVERSE CHARACTERISTICS

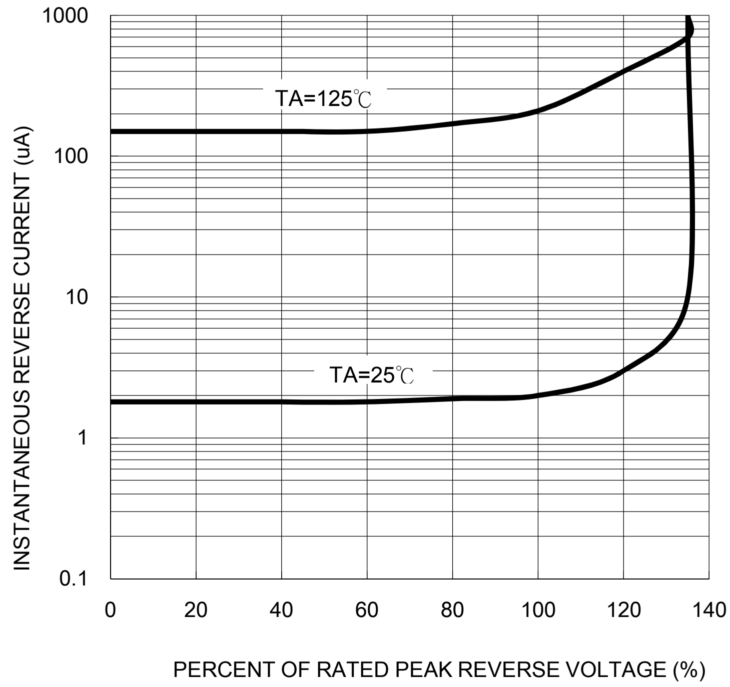


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

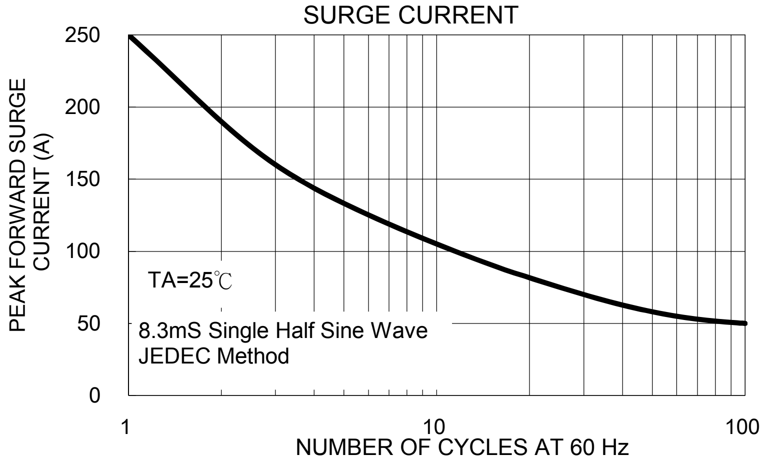


FIG. 5- TYPICAL FORWARD CHARACTERISTICS

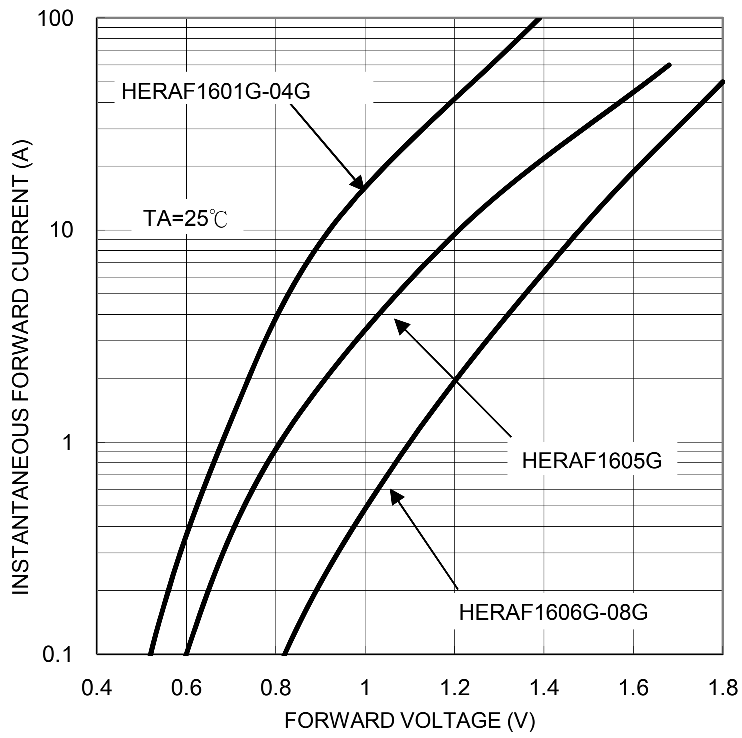


FIG. 4- TYPICAL JUNCTION CAPACITANCE

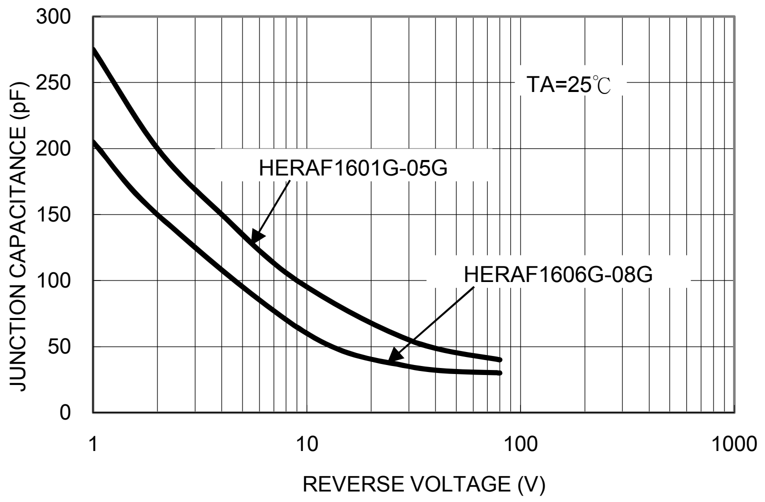
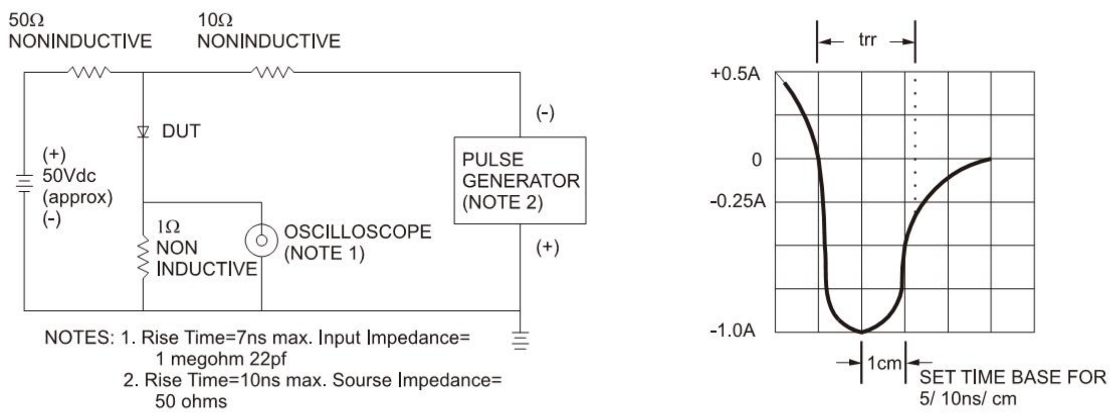


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

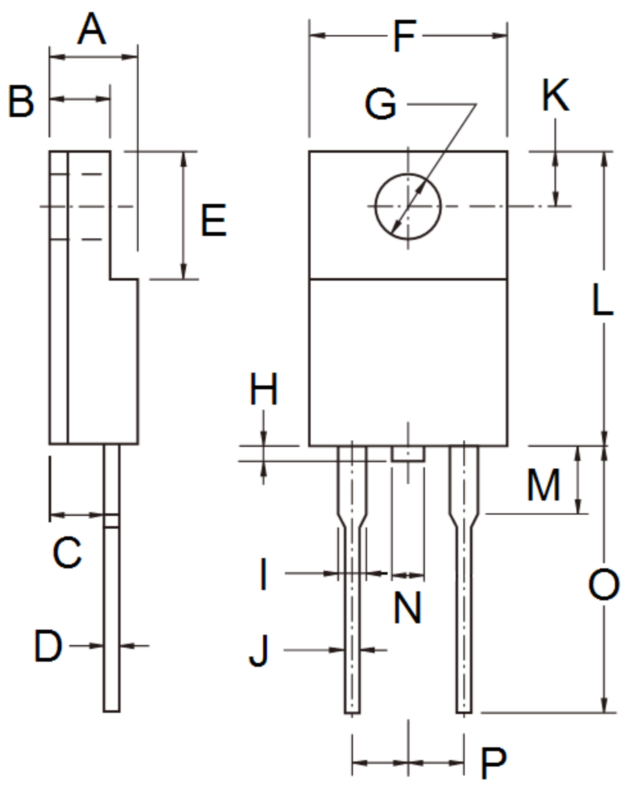


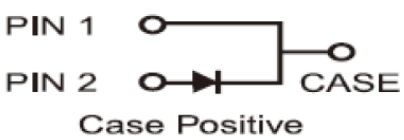
Ordering information

Part No.	Package	BULK Packing	Packing code	Packing code (Green)
HERAF160xG	ITO-220AC	50 / TUBE	C0	C0G

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

Dimensions





DIM.	Unit(mm)		Unit(inch)	
	Min	**Max**	**Min**	**Max**
A	4.30	4.70	0.169	0.185
B	2.50	3.10	0.098	0.122
C	2.30	2.90	0.091	0.114
D	0.46	0.76	0.018	0.030
E	6.30	6.90	0.248	0.272
F	9.60	10.30	0.378	0.406
G	3.00	3.40	0.118	0.134
H	-	1.60	-	0.063
I	0.95	1.45	0.037	0.057
J	0.50	0.90	0.020	0.035
K	2.40	3.20	0.094	0.126
L	14.80	15.50	0.583	0.610
M	-	4.10	-	0.161
N	-	1.80	-	0.071
O	12.60	13.80	0.496	0.543
P	4.95	5.20	0.195	0.205

Marking Diagram

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