TAIWAN SEMICONDUCTOR

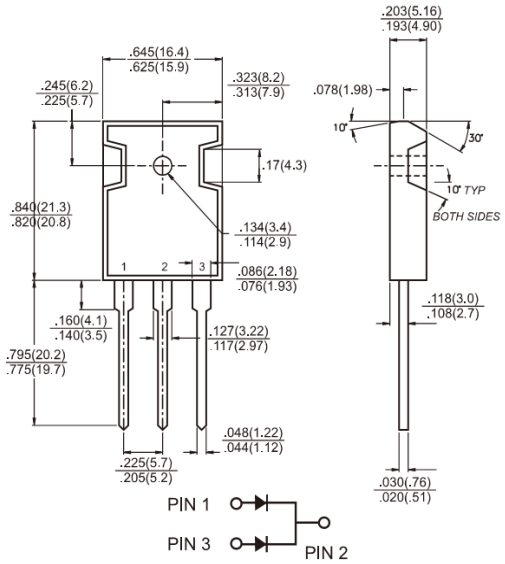
HER3001PT - HER3008PT

30.0AMPS. Glass Passivated High Efficient Rectifiers

TO-3P/TO-247AD

Features

- ✧ UL Recognized File # E-326243
- ✧ Dual rectifier construction, positive center-tap
- ✧ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ✧ Glass passivated chip junctions
- ✧ 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

Dimensions in inches and (millimeters)

Marking Diagram

HER300XPT	= 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 3001P	HER 3002P	HER 3003P	HER 3004P	HER 3005P	HER 3006P	HER 3007P	HER 3008PT	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℃	$I_{F(AV)}$	30								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	300								A
Maximum Instantaneous Forward Voltage (Note 1) @ 15 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	175					145			pF
Operating Temperature Range	T_J	- 55 to + 150								°C
Storage Temperature Range	T_{STG}	- 55 to + 150								°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 4.0Volts.

RATINGS AND CHARACTERISTIC CURVES (HER3001PT THRU HER3008PT)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

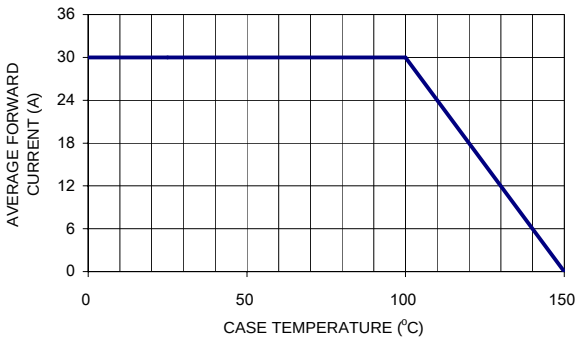


FIG. 2- TYPICAL REVERSE CHARACTERISTICS PER LEG

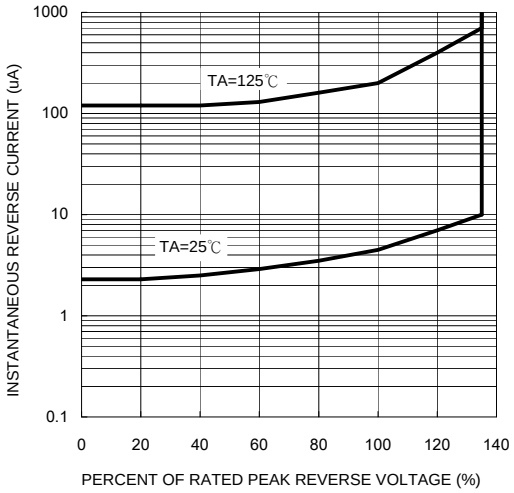


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

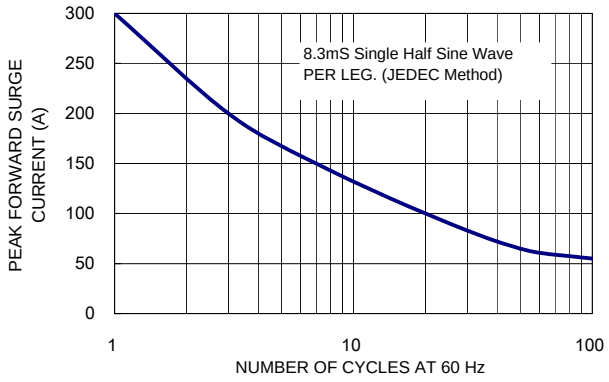


FIG. 5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISRICS PER LEG

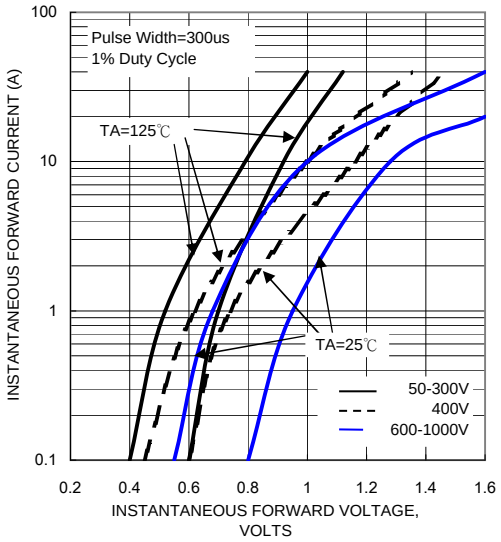


FIG. 4- TYPICAL JUNCTION CAPACITANCE PER LEG

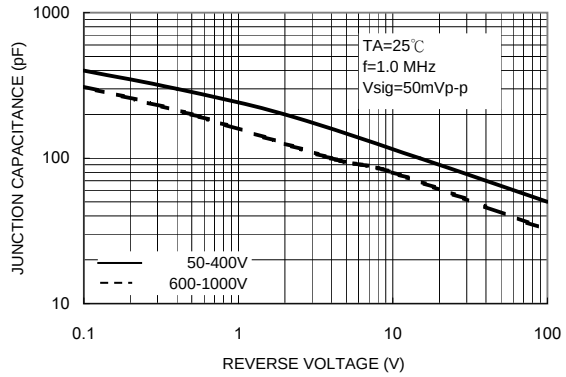


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM