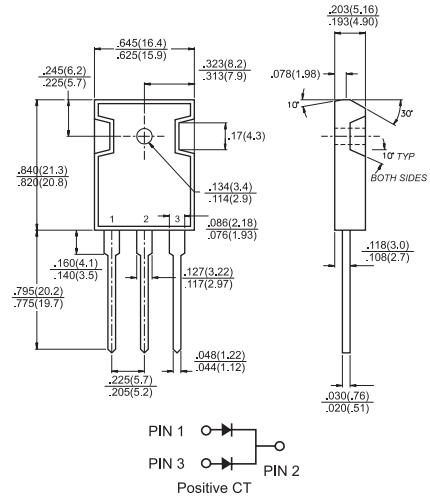
TAIWAN SEMICONDUCTOR

RoHS COMPLIANCE

HER3001PT - HER3008PT

30.0 AMPS. Glass Passivated High Efficient Rectifiers

TO-3P/TO-247AD



Dimensions in inches and (millimeters)

Features

- ✧ Dual rectifier construction, positive center-tap
- ✧ Plastic package has Underwriters Laboratory Flammability Classification 94V0
- ✧ 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°C, 0.16"(4.06mm)from case for 10 seconds

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: 0.2 ounce, 5.6 grams

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 3001PT	HER 3002PT	HER 3003PT	HER 3004PT	HER 3005PT	HER 3006PT	HER 3007PT	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℃	$I_{(AV)}$	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 @15.0A	V_F	1.0				1.3	1.7			V
Maximum DC Reverse Current @T_C=25°C at Rated DC Blocking Voltage @ T_C=125°C	I_R	10 500								uA uA
Maximum Reverse Recovery Time (Note 2) @T_J=25°C	Trr	50					80			nS
Typical Junction Capacitance (Note 1)	Cj	175					145			pF
Operating Temperature Range	T_J	-55 to +150								°C
Storage Temperature Range	T_{STG}	-55 to +150								°C

Notes: 1. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts.
2. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, Recover to 0.25A.

RATINGS AND CHARACTERISTIC CURVES (HER3001PT THRU HER3008PT)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

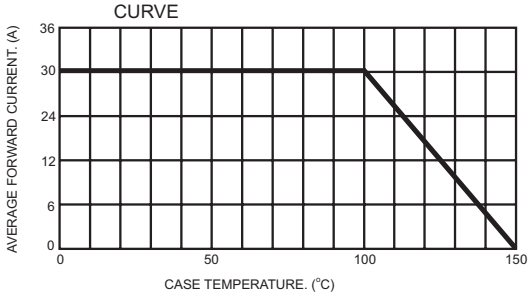


FIG.2- TYPICAL REVERSE CHARACTERISTICS PER LEG

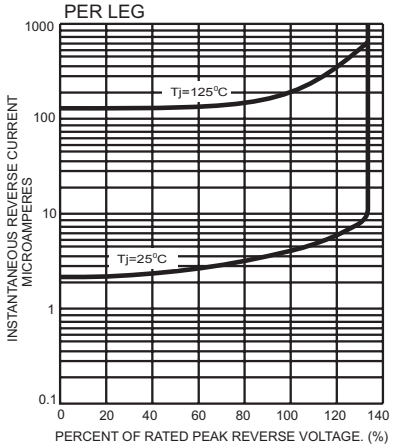


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

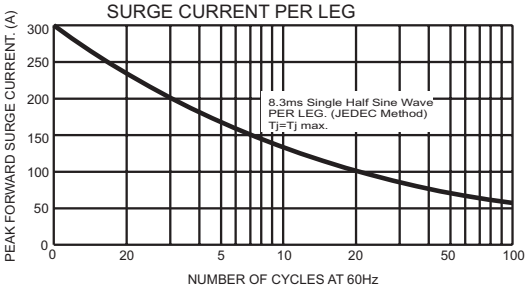


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

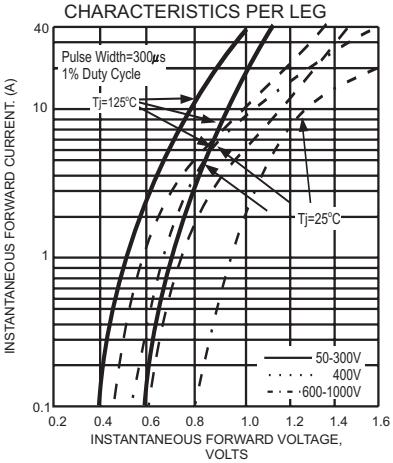


FIG.4- TYPICAL JUNCTION CAPACITANCE PER LEG

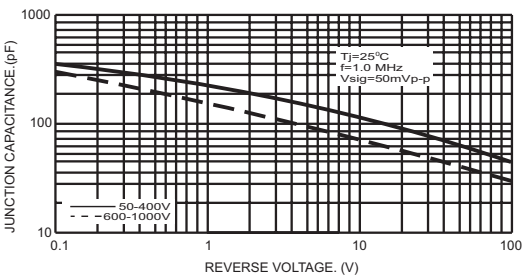


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM