# HER1601CT THRU HER1608CT

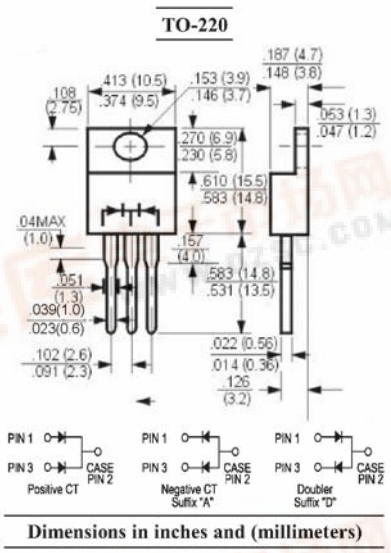


## GLASS PASSIVATED HIGH EFFICENCY RECTIFIERS

**Reverse Voltage - 50 to 1000 V**
**Forward Current - 16 A**

### Features

- Plastic package has Underwriters Laboratory Flammabiliy Classification 94V-0 ctilizing Flame Retardant Epoxy Molding Compound.
- Low power loss, high efficiency.
- Low forward voltage, high current capability.
- High surge capacity.
- Ultra fast recovery times, high voltage.




### Mechanical Data

- **Case:** Molded plastic, TO-220
- **Epoxy:** UL 94V-0 rate flame retardant.
- **Terminals:** leads solderable per MIL-STD-202, method 208 guaranteed
- **Polarity:** As marked
- **Mounting Position:** Any

### Absolute Maximum Ratings and Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave,60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

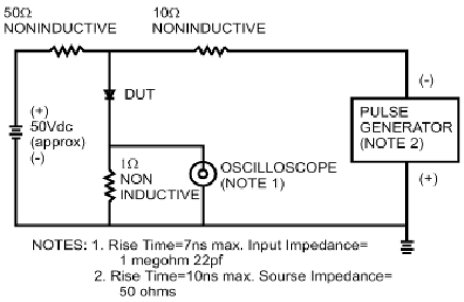
| Parameter | | Symbols | HER 1601CT | HER 1602CT | HER 1603CT | HER 1604CT | HER 1605CT | HER 1606CT | HER 1607CT | HER 1608CT | Units |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | | $V_{RRM}$ | 50 | 100 | 200 | 300 | 400 | 600 | 800 | 1000 | V |
| Maximum 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 at $T_C$ = 100 °C | | $I_{F(AV)}$ | 16 | | | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | | $I_{FSM}$ | 125 | | | | | | | | A |
| Maximum Forward Voltage at 8 A DC | | $V_F$ | 1 | | | 1.3 | | 1.7 | | | V |
| Maximum Reverse Current at Rated DC Blocking Voltage | at $T_A$ = 25 °C | $I_R$ | 10 | | | | | | | | μA |
| | at $T_A$ = 125 °C | | 500 | | | | | | | | |
| Typical Junction Capacitance [1] | | $C_J$ | 80 | | | | | 50 | | | pF |
| Maximum Reverse Recovery Time [2] | | $t_{rr}$ | 50 | | | | | 80 | | | ns |
| Typical Thermal Resistance [3] | | $R_{\theta JC}$ | 3 | | | | | | | | °C/W |
| Operating and Storage Temperature Range | | $T_j, T_{stg}$ | - 55 to + 150 | | | | | | | | °C |

[1] Measured at 1 MHz and applied reverse voltage of 4 VDC.

[2] Reverse recovery test conditions: $I_F$ = 0.5 A, $I_R$ = 1 A, $I_{rr}$ = 0.25 A.

[3] Thermal resistance from junction to case per leg mounted on heatsink.

FIG.1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



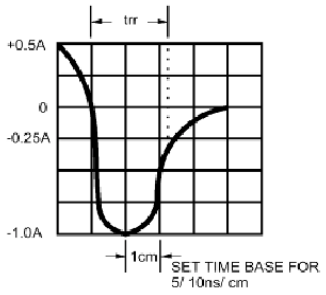




FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

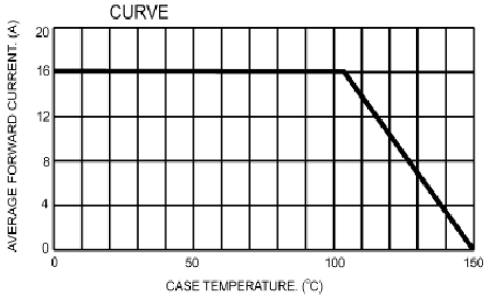



FIG.3- TYPICAL REVERSE CHARACTERISTICS PER LEG

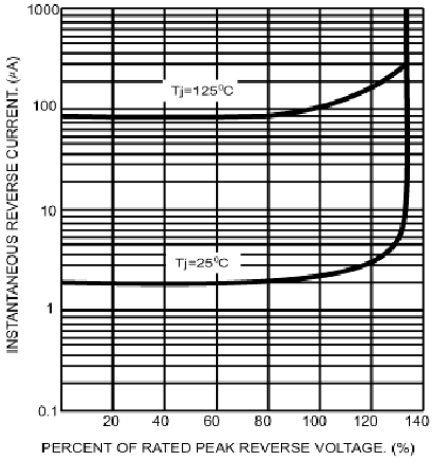



FIG.4- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

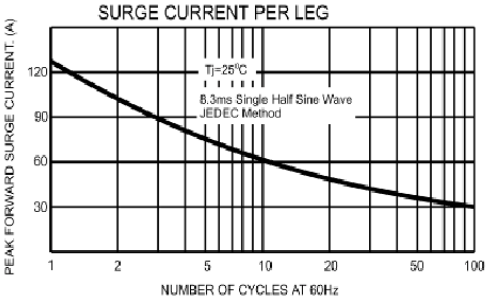



FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

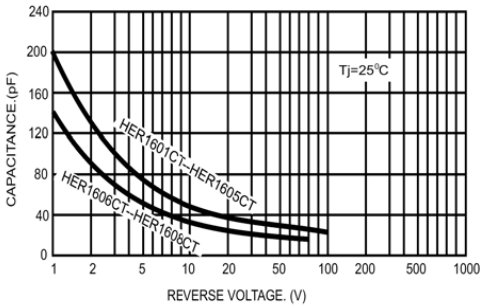



FIG.6- TYPICAL FORWARD CHARACTERISTICS PER LEG