

**HYPER-FAST  
GLASS PASSIVATED RECTIFIER**

**REVERSE VOLTAGE – 600 Volts  
FORWARD CURRENT – 8.0 Ampere**

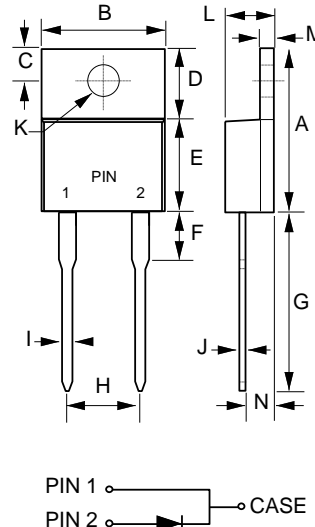
**FEATURES**

- Soft, Hyper fast switching capability
- Specially suited for Continuous mode Power Factor Corrections
- High reliability and efficiency
- Qualified according to AEC-Q101 Rev\_C
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. “Green” Device (Note 3)**

**MECHANICAL DATA**

- Package: JEDEC TO-220AC
- Package Material: “Green” Molding compound, UL flammability classification 94V-0, “Halogen-free”
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Lead Free Plating
- Polarity indicator: As marked on the body
- Lead free Finish, RoHS compliant
- Weight: 0.07 ounces, 1.894 grams (Approximate)
- Component in accordance to RoHS 2002/95/EC
- Maximum mounting torque = 0.5 N.m (5.1 Kgf.cm)

**TO-220AC**



| TO-220AC |                    |                    |
|----------|--------------------|--------------------|
| DIM.     | MIN.               | MAX.               |
| A        | 14.40              | 15.20              |
| B        | 9.65               | 10.67              |
| C        | 2.54               | 3.43               |
| D        | 5.84               | 6.86               |
| E        | 8.26               | 9.28               |
| F        | -                  | 4.20               |
| G        | 12.70              | 14.73              |
| H        | 4.83               | 5.33               |
| I        | 0.51               | 1.14               |
| J        | 0.30               | 0.64               |
| K        | 3.53 $\varnothing$ | 4.09 $\varnothing$ |
| L        | 3.56               | 4.83               |
| M        | 1.14               | 1.40               |
| N        | 2.03               | 2.92               |

All Dimensions in millimeter

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.

**ABSOLUTE RATINGS**

| PARAMETER                               | SYMBOL         | VALUE       | UNIT |
|---|----------------|-------------|------|
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$      | 600         | V    |
| Average Rectified Output Current        | $I_F$          | 8.0         | A    |
| Non-repetitive avalanche energy         | $E_{AS}$       | 21.7        | mJ   |
| Non Repetitive Forward Surge Current    | $I_{FSM}$      | 160<br>80   | A    |
| Operation and Storage temperature range | $T_J, T_{STG}$ | -55 to +175 | °C   |

**STATIC ELECTRICAL CHARACTERISTICS**

| PARAMETER                | TEST CONDITION                                      | SYMBOL | MIN | TYP      | MAX        | UNIT    |
|--------------------------|---|--------|-----|----------|------------|---------|
| Forward Voltage (Note 4) | $I_F=8.0A$<br>$T_J=25^\circ C$<br>$T_J=125^\circ C$ | $V_F$  | -   | -<br>1.6 | 2.9<br>1.8 | V       |
| Reverse Leakage Current  | $V_R=600V$<br>$T_J=25^\circ C$<br>$T_J=125^\circ C$ | $I_R$  | -   | -<br>112 | 30<br>400  | $\mu A$ |

**THERMAL CHARACTERISTICS**

| PARAMETER   | SYMBOL  | VALUE       | UNIT |
|---|---|-------------|------|
| Typical thermal resistance, Junction to Case (Note 5) | $R_{\theta JC}$<br>$R_{\theta JL}$<br>$R_{\theta JA}$ | 2<br>2<br>5 | °C/W |

**DYNAMIC ELECTRICAL CHARACTERISTICS**

| PARAMETER                | TEST CONDITION   | SYMBOL   | MIN | TYP | MAX | UNIT |
|--------------------------|--|----------|-----|-----|-----|------|
| Reverse recovery time    | $I_F=0.5A, I_{rr}=0.25A, I_R=1.0A$<br>$T_J=25^\circ C$       | $t_{rr}$ | -   | -   | 25  | ns   |
|                          | $I_F=1A, dI_F/dt=-50A/\mu s, V_R=30V$<br>$T_J=25^\circ C$    | $t_{rr}$ | -   | -   | 45  |      |
| Reverse recovery current | $I_F=8A, dI_F/dt=-200A/\mu s, V_R=400V$<br>$T_J=125^\circ C$ | $I_{RM}$ | -   | 5.5 | 7.2 | A    |
| Reverse recovery charges | $T_J=125^\circ C$  | $Q_{rr}$ | -   | 150 | -   | nC   |

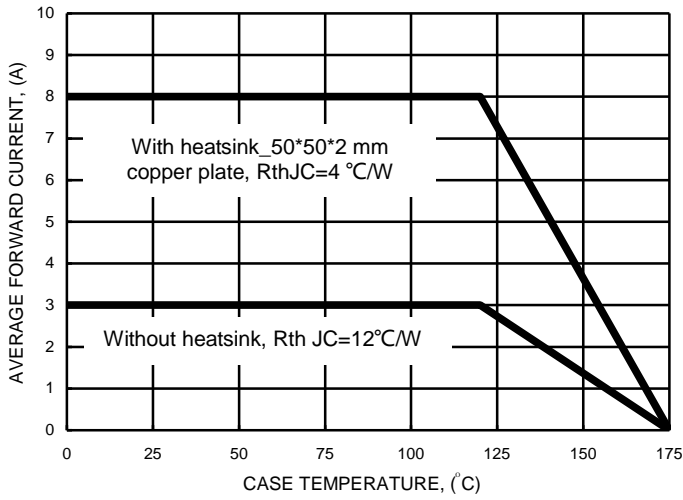
Notes:

**REV.-4, Nov-2021, KTGA28**

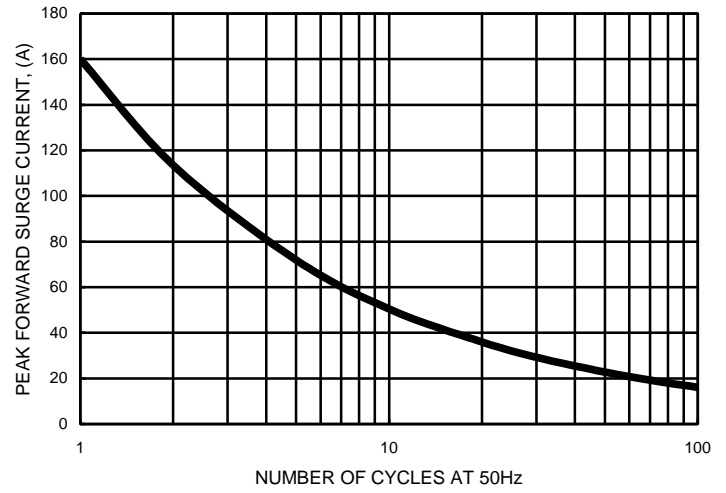
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. 300us Pulse Width, 2% Duty Cycle.
5. Thermal Resistance test performed in accordance with JESD-51.  $R_{thj-l}$  is measured at the PIN 2,  $R_{thj-c}$  is measured at the top centre of body.

**RATING AND CHARACTERISTIC CURVES**  
**LTTH806RW**

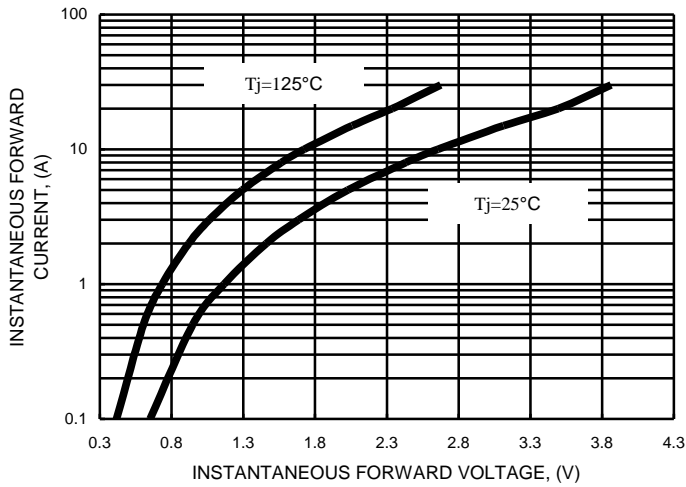
**FIG.1- FORWARD CURRENT DERATING CURVE**



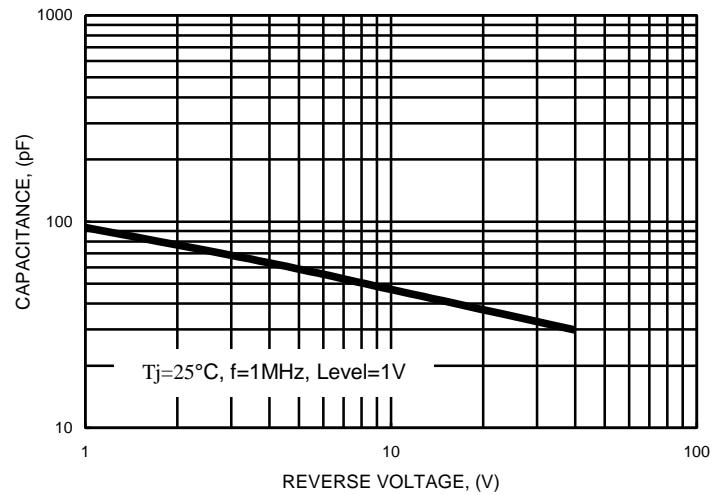
**FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT**



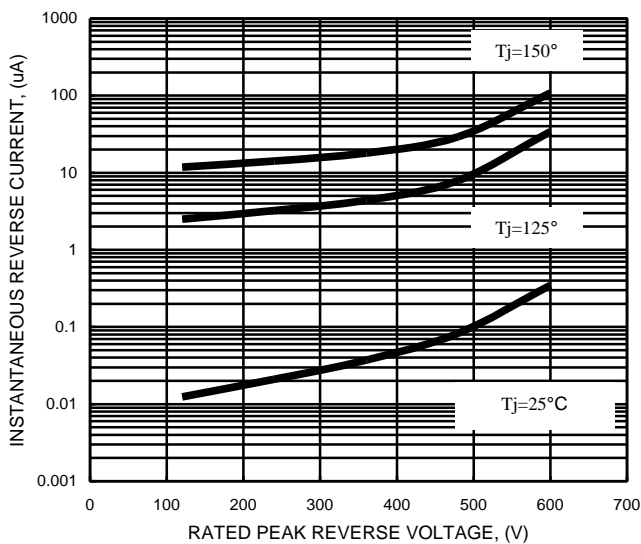
**FIG.3- TYPICAL FORWARD CHARACTERISTICS**



**FIG.4- TYPICAL JUNCTION CAPACITANCE**



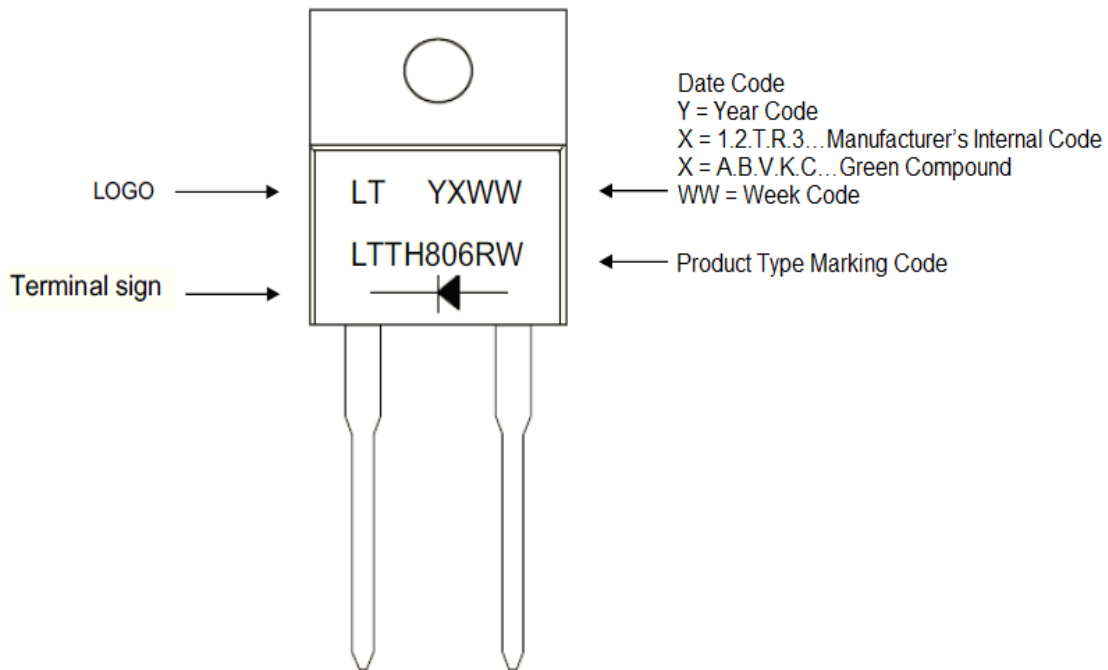
**FIG.5- TYPICAL REVERSE CHARACTERISTICS**



### Ordering Information :

| Part Number | Package  | Packing |         |
|-------------|----------|---------|---------|
|             |          | Qty.    | Carrier |
| LTTH806RW   | TO-220AC | 50      | Tube    |

### Marking Information :



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