

## HYPER-FAST GLASS PASSIVATED RECTIFIER

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

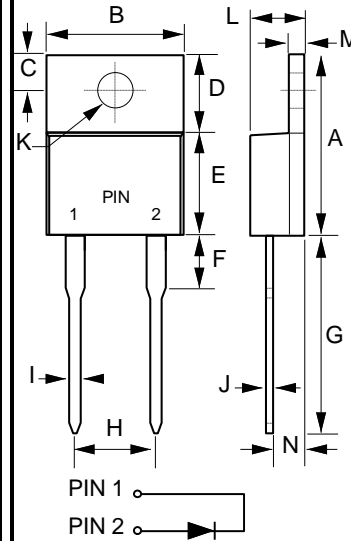
### FEATURES

- Soft, Hyper fast switching capability
- Specially suited for discontinuous or critical mode power factor correction
- High reliability and efficiency
- Low forward voltage drop
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e.: parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please refer to the related automotive grade (Q-suffix) part. A listing can be found at <https://www.diodes.com/products/automotive/automotive-products/>.**
- **This part is qualified to JEDEC standards (as references in AEC-Q) for High Reliability.**  
<https://www.diodes.com/quality/product-definitions/>

### MECHANICAL DATA

- Package: JEDEC TO-220AC
- Package Material: "Green" Molding compound, UL flammability classification 94V-0, "Halogen-free".
- Polarity indicator: As marked on the body
- Terminals: Finish – Matte Tin Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 (E3)
- Weight: 1.894 grams (Approximate)
- Maximum mounting torque = 0.5 N.m (5.1 Kgf.cm)
- Marking code: LTTH806LW

### TO-220AC(WB)



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 $\Phi$	4.09 $\Phi$
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
Maximum DC Blocking Voltage	$V_{DC}$	600	V
Maximum Average rectified forward current	$I_{F(av)}$	8.0	A
Peak forward surge 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	120	A
$I^2t$ Rating for fusing (3ms $\leq t \leq$ 8.3ms)	$I^2t$	60	A <sup>2</sup> S
Storage and Operating temperature range	$T_{STG}, T_J$	-55 ~ +150	°C

#### STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL	TYP	MAX	UNIT
Forward voltage (Note 4)	$I_F=8A$ $T_J = 25^\circ C$ $T_J = 125^\circ C$	$V_F$	1.10 0.94	1.30 --	V
Reverse leakage current	$V_R=600V$ $T_J = 25^\circ C$ $T_J = 150^\circ C$	$I_R$	0.1 50	8.0 --	$\mu A$

#### THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 5, 6)	$R_{thJC}$ $R_{thJL}$	5 8	°C/W

#### DYNAMIC ELECTRICAL CHARACTERISTICS

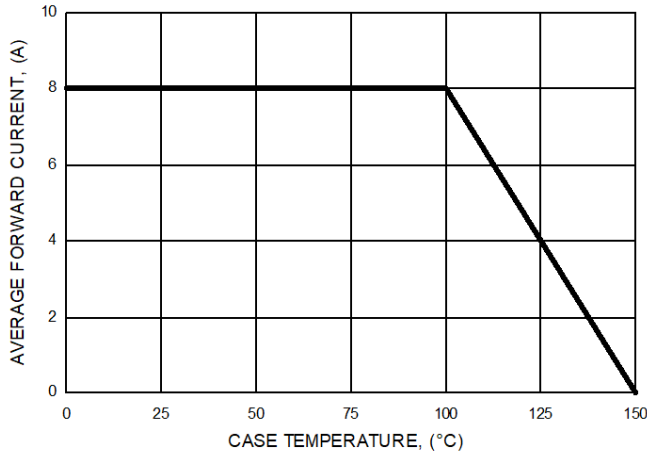
PARAMETER	TEST CONDITION	SYMBOL	MAX	UNIT
Reverse recovery time	$I_F = 0.5A, I_{rr} = 0.25A, I_R = 1.0A$	$T_{rr}$	70	nS

#### Note:

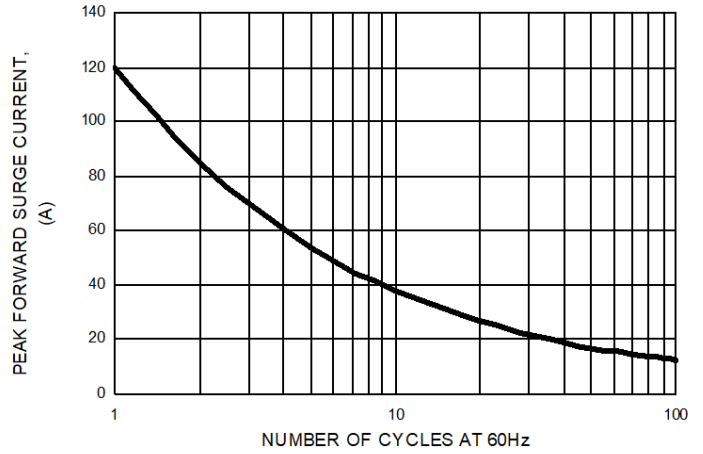
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- 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.
6. The  $R_{thjC}$  is measured at the PIN 2,  $R_{thjL}$  is measured at the top centre of body.

**RATING AND CHARACTERISTIC CURVES**  
**LTTH806LW**

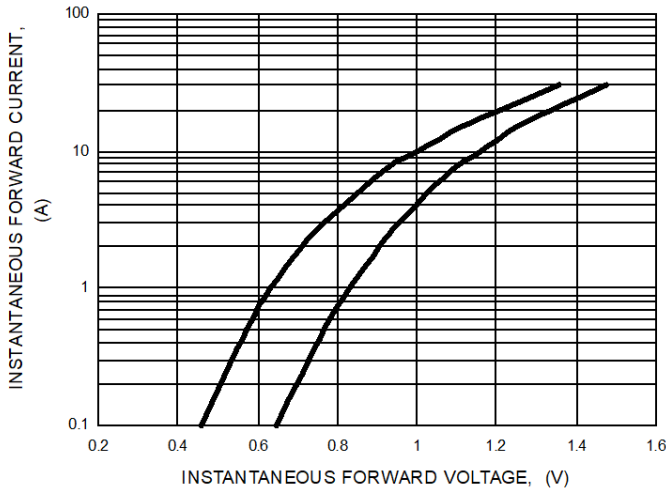
**FIG.1- FORWARD CURRENT DERATING CURVE**



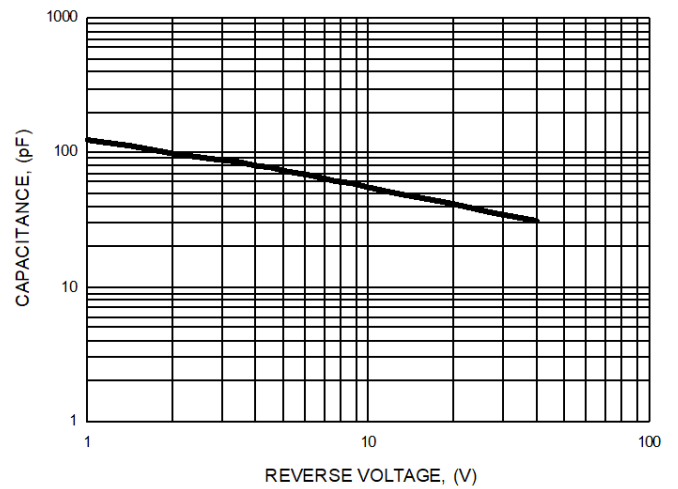
**FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT**



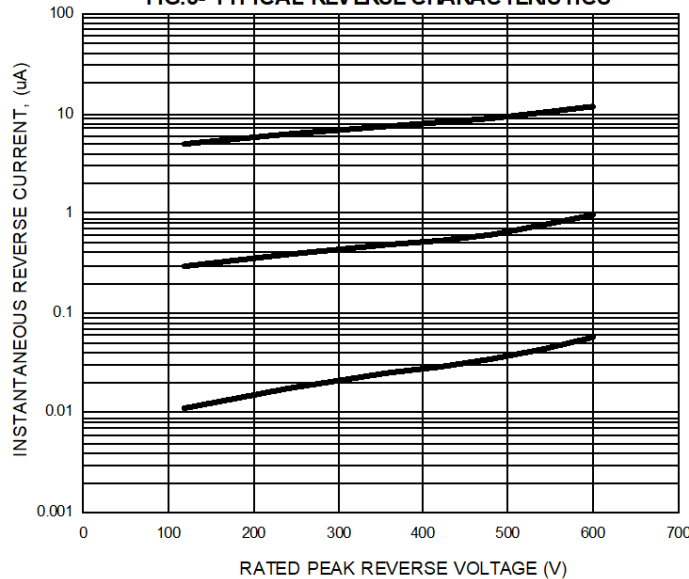
**FIG.3- TYPICAL FORWARD CHARACTERISTICS**



**FIG.4- TYPICAL JUNCTION CAPACITANCE**



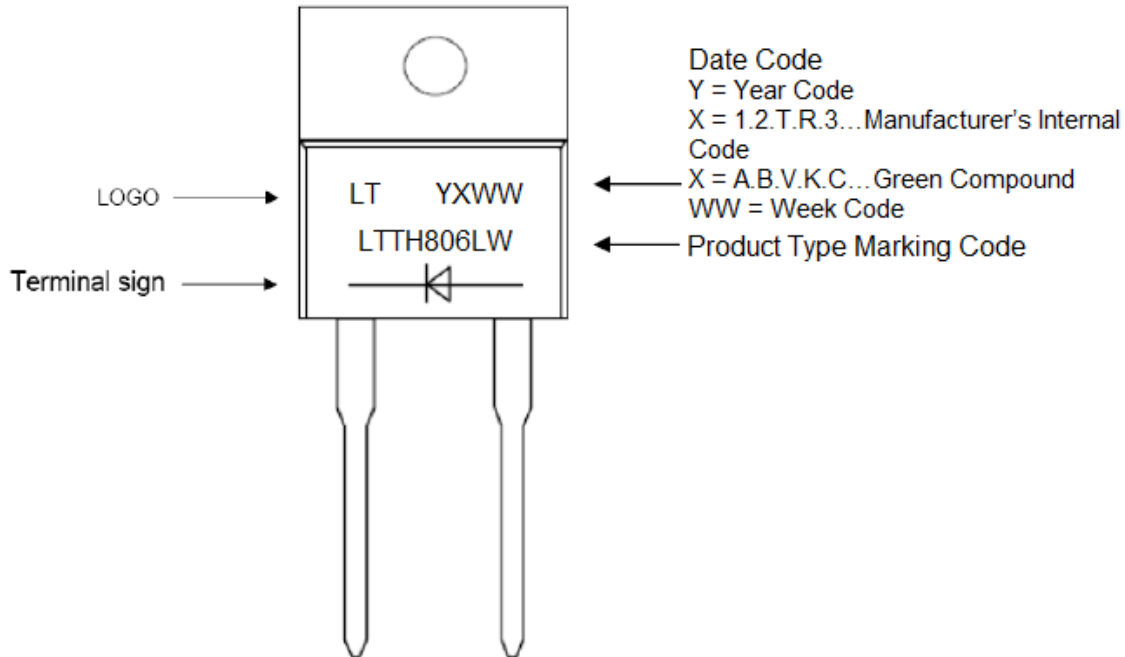
**FIG.5- TYPICAL REVERSE CHARACTERISTICS**



**Ordering Information :**

Part Number	Package	Packing	
		Qty.	Carrier
LTTH806LW_NC	TO-220AC(WB)	50 pcs	Tube

**Marking information :**



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