A Product Line of Diodes Incorporated | LITE-ON SEMICONDUCTOR

Green

# LTTH1206DFW

## HYPER-FAST GLASS PASSIVATED RECTIFIER

## REVERSE VOLTAGE – 600 Volts FORWARD CURRENT – 12 Amperes

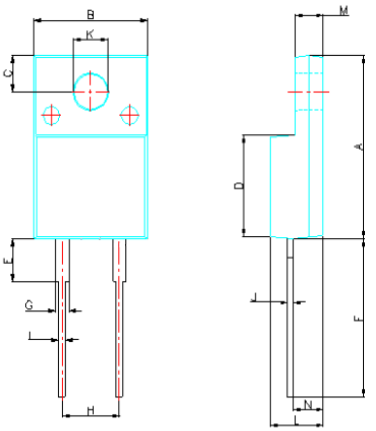
### FEATURES

- Soft, hyper fast switching capability
- Specially suited for critical 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 : ITO-220AC
- Polarity indicator : As marked on the body
- Weight : 0.05 ounces, 1.497grams(Approximate)
- Marking code : LTTH1206DFW
- Case Material : Plastic material, UL flammability classification 94V-0
- Moisture Sensitivity : Level 1 per J-STD-020C
- Component in accordance to RoHs 2002/95/EC

### ITO-220AC(WB)




PIN 1
PIN 2

| ITO-220AC(WB) | | |
|---|---|---|
| DIM | MIN | MAX |
| A | 14.95 | 15.95 |
| B | 10.00 | 10.40 |
| C | 2.76 | 3.36 |
| D | 8.50 | 8.80 |
| E | 3.30 | 3.90 |
| F | 13.00 | 13.70 |
| G | 1.15 | 1.70 |
| H | 4.95 | 5.25 |
| I | 0.50 | 0.80 |
| J | 0.45 | 0.70 |
| K | 3.00 Ø | 3.30 Ø |
| L | 4.46 | 4.87 |
| M | 2.48 | 2.80 |
| N | 2.50 | 2.80 |
| All dimension 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 |
| Average rectified output current @ δ = 0.5 ( see FIG.1) | | $I_F$ | 12 | A |
| Peak forward surge current 8.3ms single half sine-wave | | $I_{FSM}$ | 120 | A |
| Non-repetitive avalanche energy | @L=15mH | $E_{AS}$ | 21.7 | mJ |
| Operating junction and Storage temperature range | | $T_J$, $T_{STG}$ | -55 to +150 | °C |

### STATIC ELECTRICAL CHARACTERISTICS

| PARAMETER | TEST CONDITION | | SYMBOL | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|---|
| Forward voltage (Note 4) | $I_F$ = 12A | $T_J$= 25°C<br>$T_J$ = 125°C | $V_F$ | --<br>-- | 2.4<br>1.6 | 2.9<br>1.8 | V |
| Leakage current | $V_R$ = 600V | $T_J$ = 25°C<br>$T_J$ = 125°C | $I_R$ | --<br>-- | 0.2<br>30 | 45<br>600 | uA |
| Breakdown voltage | $I_R$ = 45uA | $T_J$ = 25°C | $V_B$ | 600 | -- | -- | V |

### THERMAL CHARACTERISTICS

| PARAMETER | SYMBOL | TYP | UNIT |
|---|---|---|---|
| Typical thermal resistance (Note 5) | $RthJ_C$<br>$RthJ_L$ | 4<br>5 | °C/W |

### DYNAMIC ELECTRICAL CHARACTERISTICS

| PARAMETER | TEST CONDITION | SYMBOL | TYP | MAX | UNIT |
|---|---|---|---|---|---|
| Reverse recovery time | $I_F$= 0.5A, Irr= 0.25A, $I_R$ =1.0A | trr | 23 | 25 | ns |

**Note:**

REV.-4, Nov-2021, KTGC54

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. Rthj-L is measured at the PIN 2, Rthj-C is measured at the top centre of body.

## RATING AND CHARACTERISTIC CURVES
## LTTH1206DFW

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

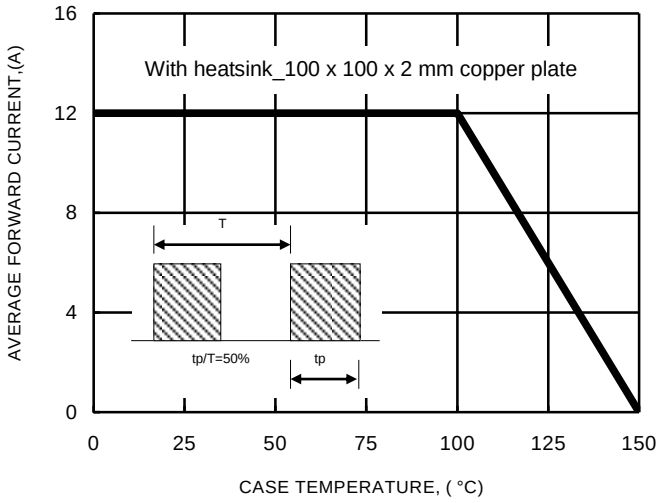



**FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT**

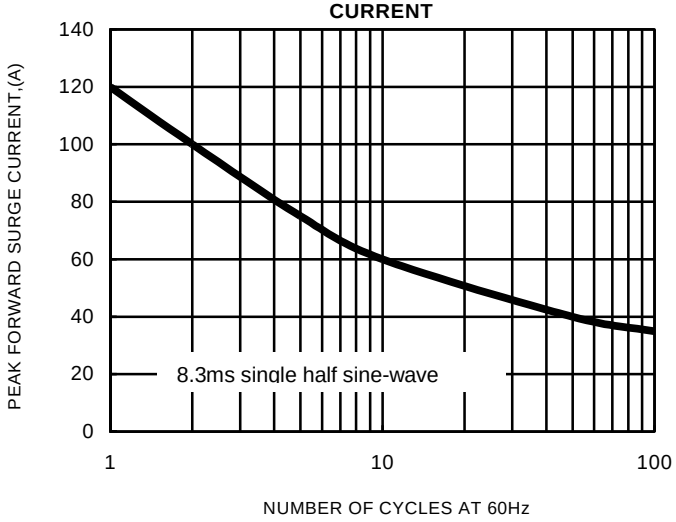



**FIG.3- TYPICAL FORWORD CHARACTERISTICS**

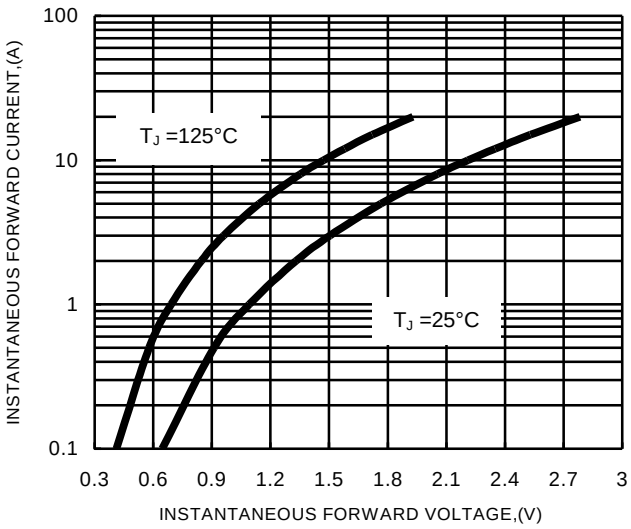



**FIG.4- TYPICAL JUNCTION CAPACITANCE**

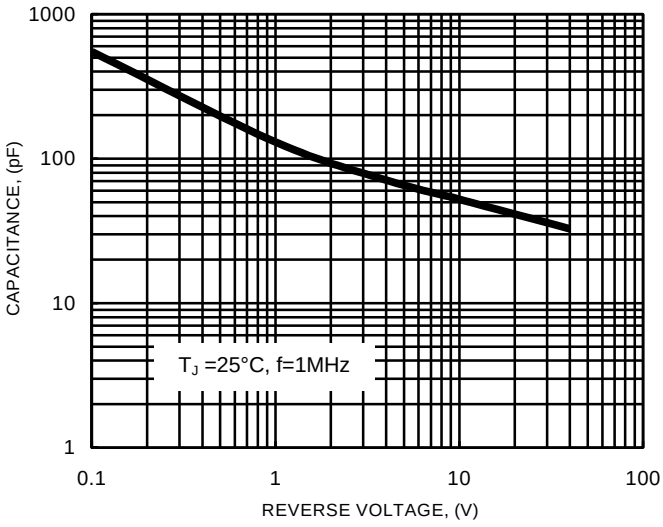
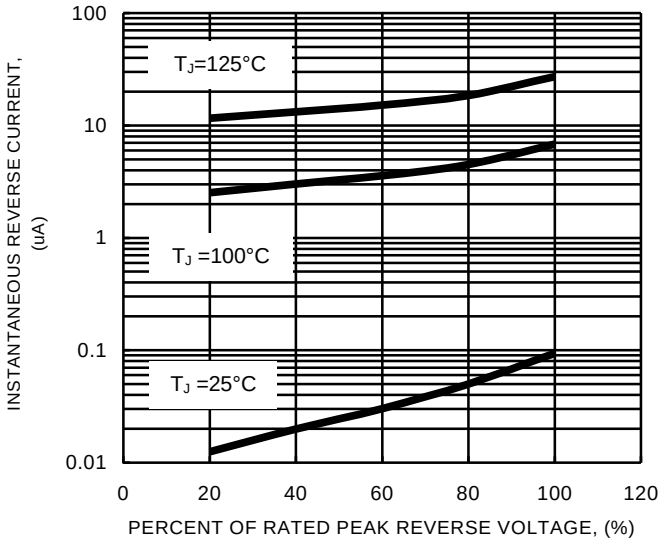


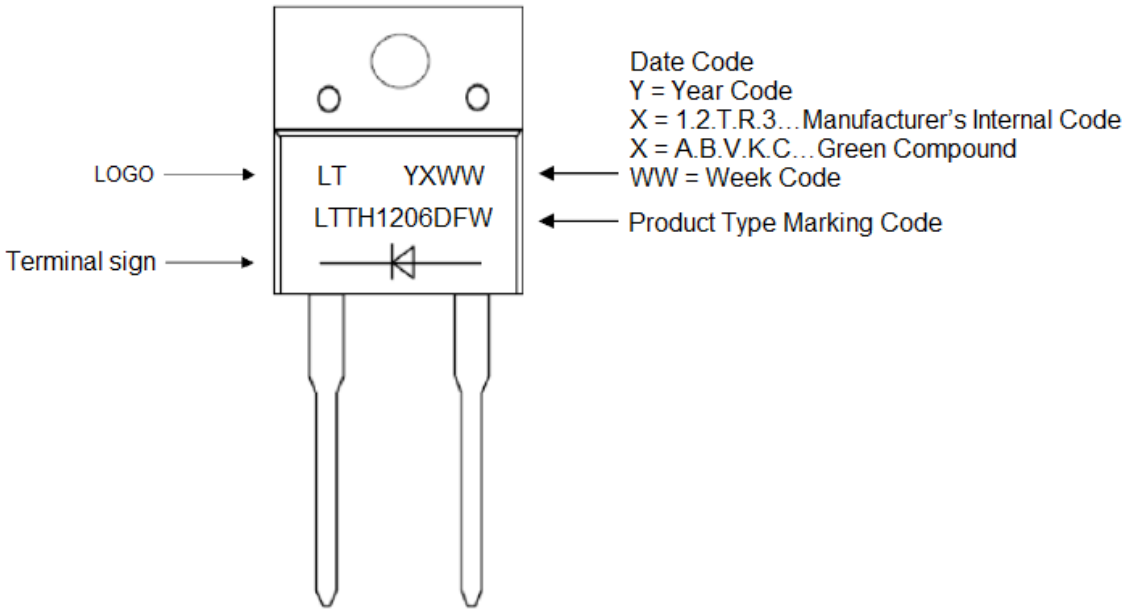

**FIG.5- TYPICAL REVERSE CHARACTERISTICS**



## Ordering Information :

| Part Number | Package | Packing | |
|---|---|---|---|
| | | Qty. | Carrier |
| LTTH1206DFW | ITO-220AC(WB) | 50pcs | Tube |

## Marking Information :



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