Preliminary – **LD7672**

High Voltage 120V Linear LED Driver
36mA Constant Current with Control

## Features

- Wide input voltage range : 1.5V to 120V
- Constant output current : 36mA±10%
- Parallel working for higher currents
- Dimming control by an enable pin
- RoHS and green compliant packages

## Applications

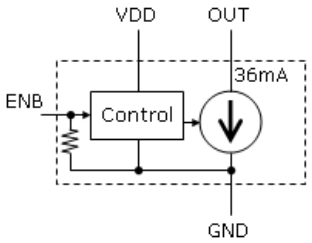
- Turn signal
- LED traffic light
- Signage or decorative LED lamp
- Constant source or constant sink

## General Description

The LD7672 is a cost-effective linear regulator optimized for high input voltage. It regulates to supply a constant current of 36mA±10% at input voltage of 1.5V ~ 120Vdc with the enable control by VDD or ENB pin. The Device can be used as a constant current source or a constant current sink.

The typical application of LD7672 is to drive a string LED with a constant current 36mA. The parallel connection of LD7672 can be used to provide higher constant current. However, total constant current higher than 100mA is not encouraged.

## Equivalent Block Diagram

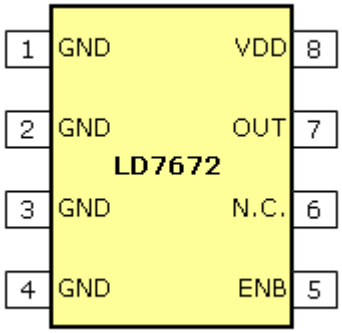



## Ordering Information

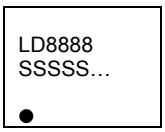
| Part No. | Package | Packing Options | |
|---|---|---|---|
| | | Tube (TU)/ **Bag(BG)** | Tape & Reel (TR) |
| LD7672 | SOP-8 | LD7672S1-TU | LD7672S1-TR |
| LD7672 | SOT-89-5 | LD7672L6-BG | LD7672L6-TR |

- Package material default is “Green” package.

## Package Pin Out


## Product Marking




- Line 1 – “LD” is a fixed character
  8888: product name
- Line 2 – SSSSS…: lot number

## Absolute Maximum Ratings

| Parameter | Maximum | Units |
|---|---|---|
| Maximum Operating Voltage | 130 | V |
| Operating Junction Temperature | -40 to +125 | °C |
| Storage Temperature | -55 to +150 | °C |

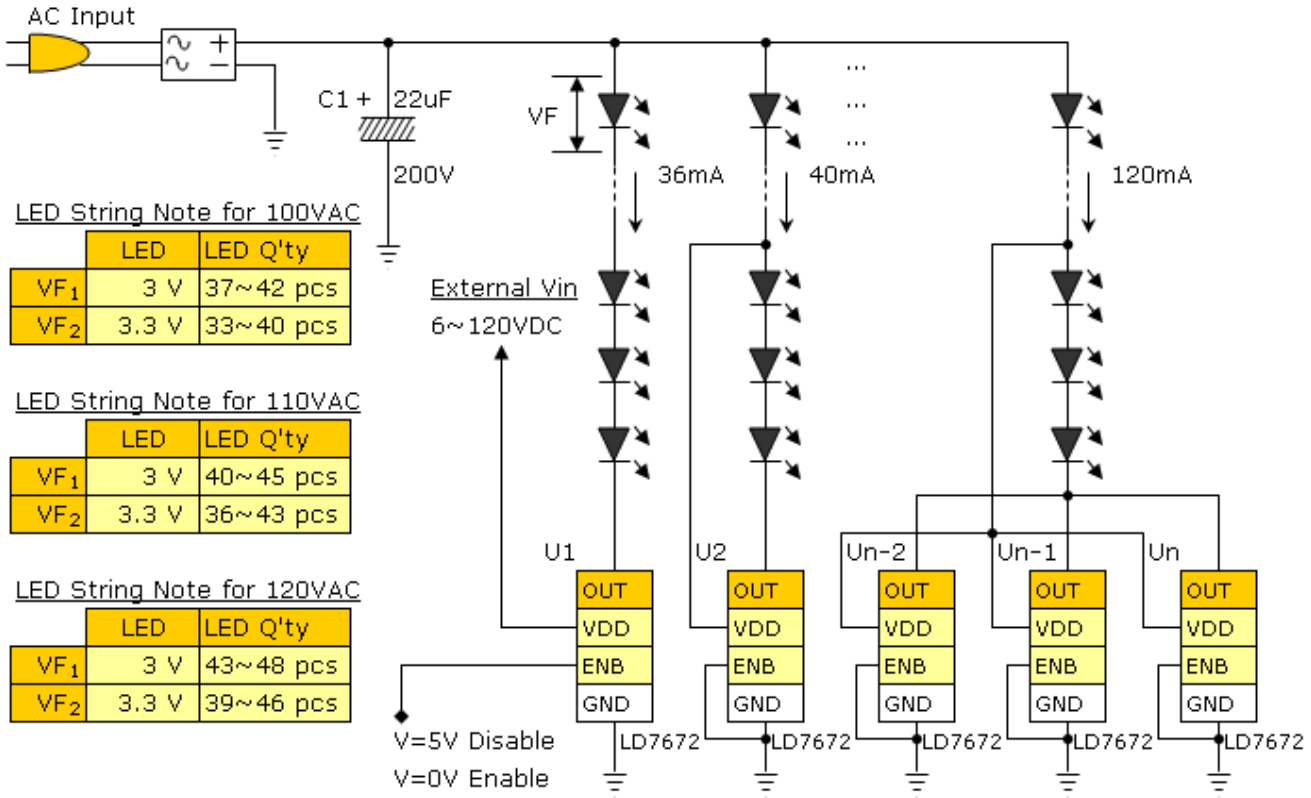
The values beyond the boundaries of absolute maximum rating may cause the damage to the device. Functional operation in this context is not implied. Continuous use of the device at the absolute rating level might influence device reliability. All voltages have their reference to device ground.

## Electrical Characteristics

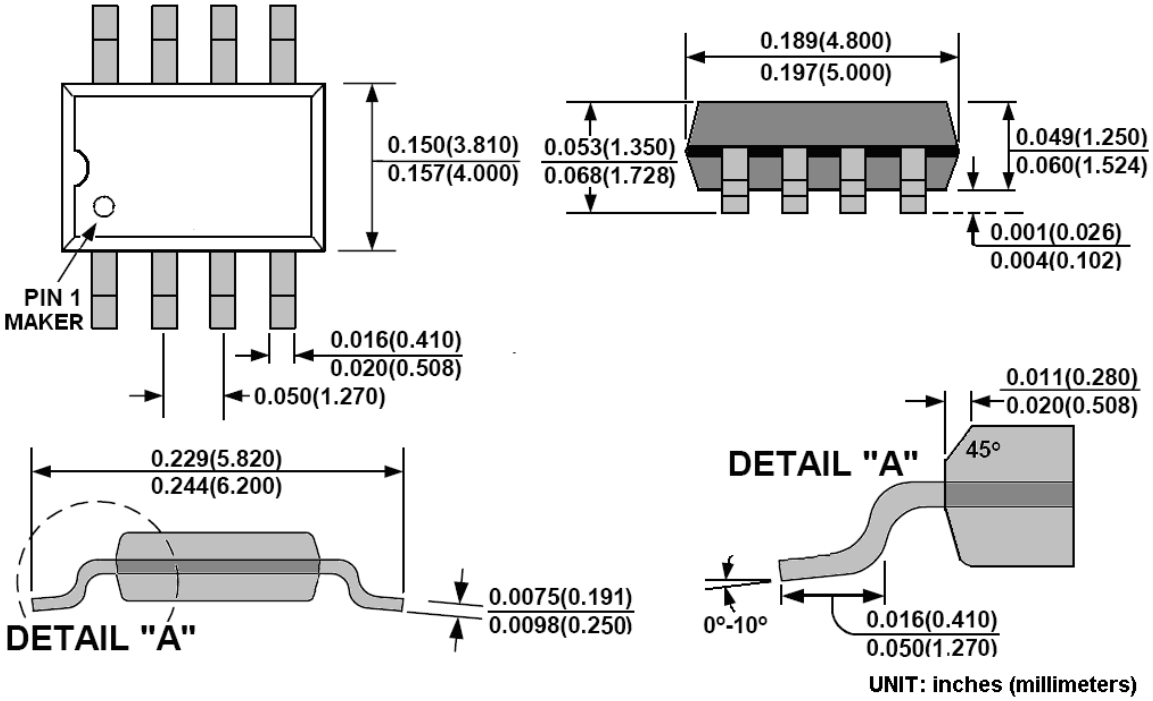
$T_A$=25°C unless specified, otherwise minimum and maximum values are guaranteed by production testing requirements.

| Parameter | Symbol | Condition | Minimum | Typical | Maximum | Units |
|---|---|---|---|---|---|---|
| Supply Voltage | $V_{DD}$ | Normal | 6.5 | – | 28 | V |
| | | Extended | 6.5 | – | 120 | |
| Output Voltage at OUT | $V_{OUT}$ | Normal | 1.5 | – | 28 | V |
| | | Extended | 1.5 | – | 120 | |
| VDD current | $I_{DD}$ | | – | 4.0 | 5.0 | mA |
| Regulated Constant OUT Current | $I_{OUT}$ | Normal | 32.4 | 36 | 39.6 | mA |
| | | Temperature limit | 31 | 36 | 41 | |
| | | Extended conditions | 30 | – | 42 | |
| OUT Current while VDD open | $I_{OUT(OFF)}$ | $V_{DD}$ open or ENB=5V | – | – | 10 | μA |
| OUT shut off VDD voltage | $V_{OUT(OFF)}$ | $I_{DD}$ < 10μA | – | – | 2.5 | V |
| Delay Time of OUT current on | $t_{ON}$ | ENB=0V | – | – | 3.0 | μS |
| Delay Time of OUT current off | $t_{OFF}$ | ENB=5V | – | – | 0.1 | μS |
| Time for OUT current applied | $t_{RISE}$ | ENB=0V | – | – | 4.0 | μS |
| Time for OUT current off | $t_{FALL}$ | ENB=5V | – | – | 0.1 | μS |
| Operating Junction Temperature | $T_J$ | | -40 | | 120 | °C |

## Typical Application Circuit



## Package Outline





## LD Tech Corporation

Tel: +886-3-567-8806
Fax: +886-3-567-8706
E-mail: sales@ldtech.com.tw
Website: www.ldtech.com.tw