



STEVAL-ILL022V1

25 W LED street light with an 80 W solar energy charger based on the STM32

Data brief

Features

- MPPT maximizes electricity conversion efficiency from solar panels
- Self-adapting charger for 12 V/24 V battery
- Automatic day/night/weather detection
- Automatic battery/mains switch over
- Constant current control for LED lamps
- Battery charge control
- Optional LED lighting duration mode
- Easy system-monitor via debug LED indicators
- Full protection function for OTP, OCP, and UVP
- RoHS compliant



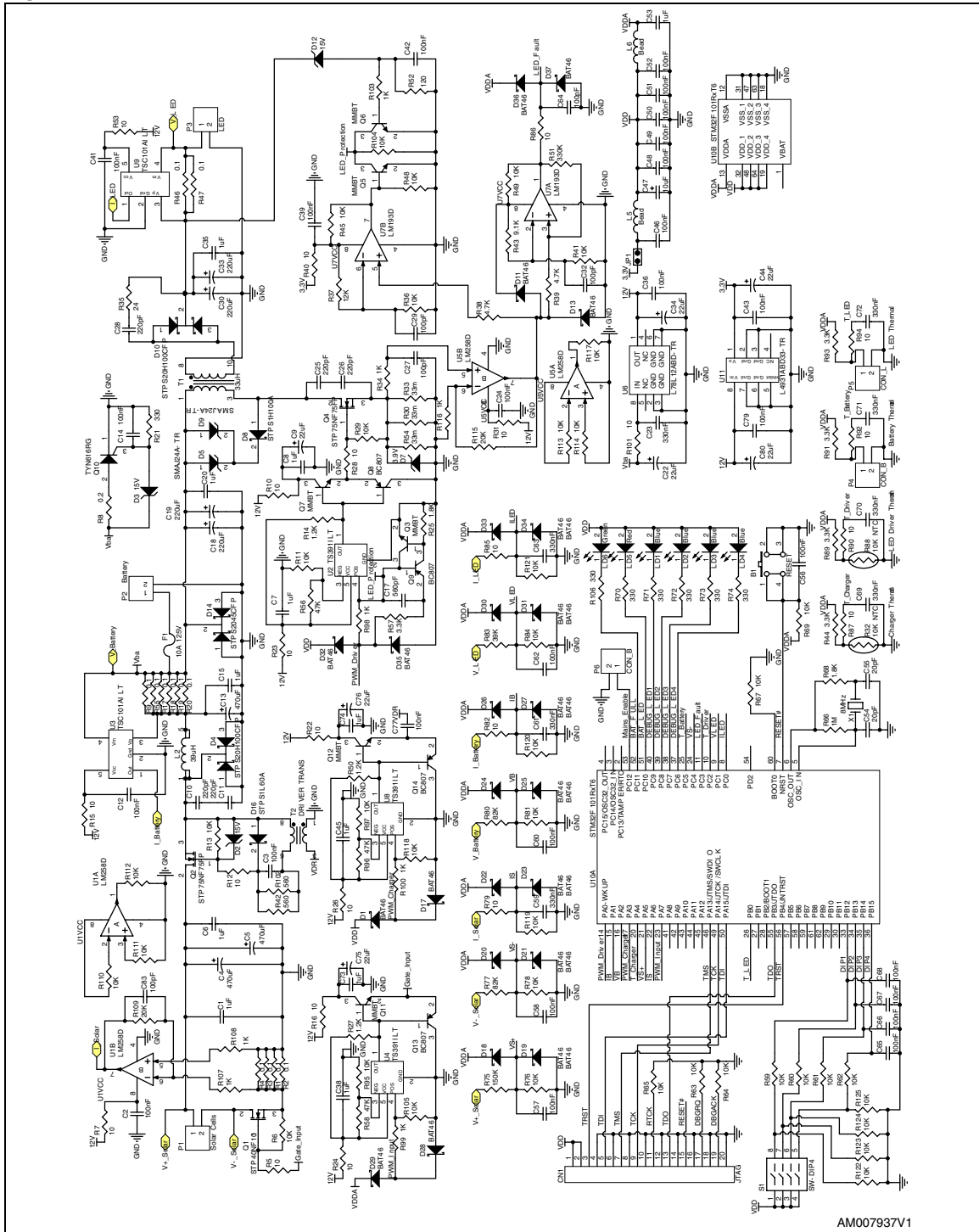
Description

The solar-LED streetlight controller is made up of one 80 W battery charger and one 25 W LED driver.

When the sun is present the charger converts the electricity from the solar panel then charges the battery. In a dark ambient where no sun is present the battery powers on the LED lamp as a streetlight. When wet or cloudy weather persists for several days the battery gradually runs out of power. The controller then switches on the AC mains supply instead of the battery to power on the LED until the battery is fully charged again.

1 Circuit schematic

Figure 1. Circuit schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
18-Aug-2010	1	Initial release.

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