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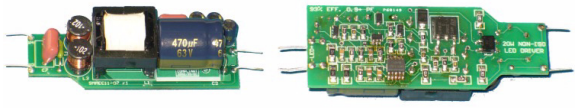
STEVAL-ILL041V1

A 93% efficient LED driver solution for the US market

Data brief

Features

- Output current 350 mA +/-3% over 90 V-138 V line range
- Load: 18 (connected in series) 1 W LEDs
- Efficiency > 93%
- Power factor > 0.97
- RoHS compliant



STEVAL-ILL041V1

Description

The STEVAL-ILL041V1 demonstration board implements an LED driver that meets the present requirements for the US market.

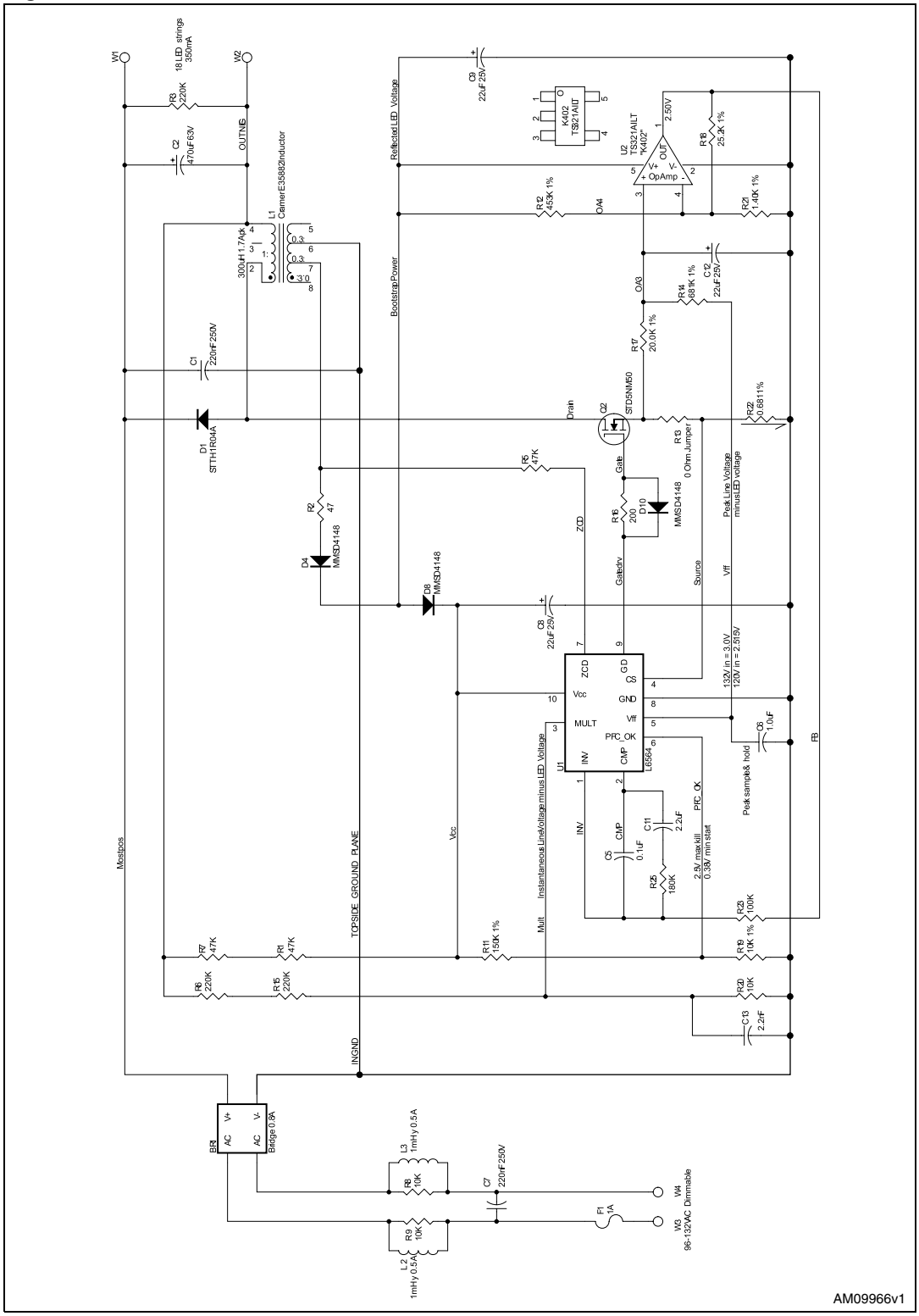
The STEVAL-ILL041V1 utilizes ST's L6564 power factor controller in an unconventional circuit to regulate the input power to a step-down switching regulator. The circuit also compensates for variations in LED voltage drop, to maintain the average output current in a tight band over a wide range of line voltage and LED characteristics.

While the input current waveform is not perfectly sinusoidal, power factor and harmonic content are well within the requirements for the US commercial market.

The form factor was designed to fit into the PAR38 envelope and the driver and LEDs can be used to replace 65 W incandescent flood lamps.

1 Circuit schematic

Figure 1. Circuit schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
31-Oct-2011	1	Initial release.

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