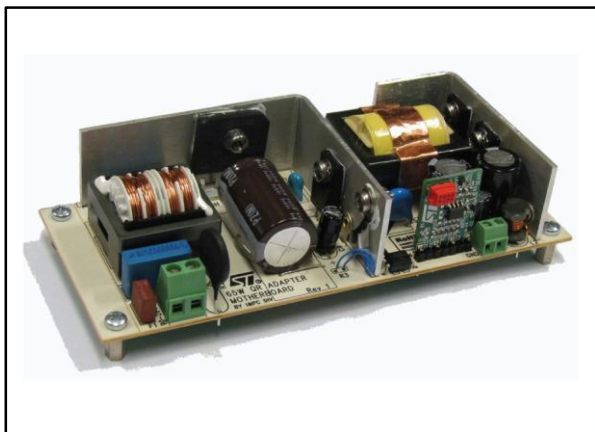


Evaluation board for the SEA01 constant voltage and current controller with online digital trimming

Data brief



Features

- Universal input mains range: 90 to 264 Vac, 45 to 66 Hz
- 65 W continuous output power
- Precise output levels:
 - CV: $19\text{ V} \pm 0.1\%$
 - CC: $3.75\text{ A} \pm 1.67\%$
- No load consumption $< 100\text{ mW}$ @ 230 Vac
- Average efficiency $> 89\%$
- Full set of protection features
- EMI: in accordance with EN55022 - class B
- Safety: in accordance with EN60950
- PCB: CEM-1, single side $35\text{ }\mu\text{m}$
- Board size: $58 \times 121\text{ mm}$, 25 mm height
- RoHS compliant

Description

The STEVAL-ISA161V1 is an evaluation board to test the performance of the SEA01 constant voltage and current controller with online digital trimming from STMicroelectronics. The board implements a 65 W adapter, targeting applications such as power supplies for high-end portable computers. The board uses the SEA01 as secondary side CV/CC controller, allowing the application to satisfy very precise output voltage and current regulations thanks to the digital trimming technique employed. The primary side PWM controller is the L6566B. This device drives a TM flyback topology, the best fit for this type of application.

The SEA01 is mounted on a small daughterboard that includes a connector to communicate, via I²C protocol, with an external trimming tool. This evaluation board can therefore be useful also as a means to test the benefits of digital trimming in a real application. The SEA01, housed in an SO8 package, is a CV/CC controller which includes 2 transconductance op-amps and 2 voltage references, digitally trimmable using an I²C interface. ST also offers an advanced trimming board (STEVAL-PCC019V1) that allows users to perform all the trimming operations (including automatic trimming) using a standard Windows®-based PC.

Figure 1: STEVAL-ISA161V1 circuit schematic (part 1)

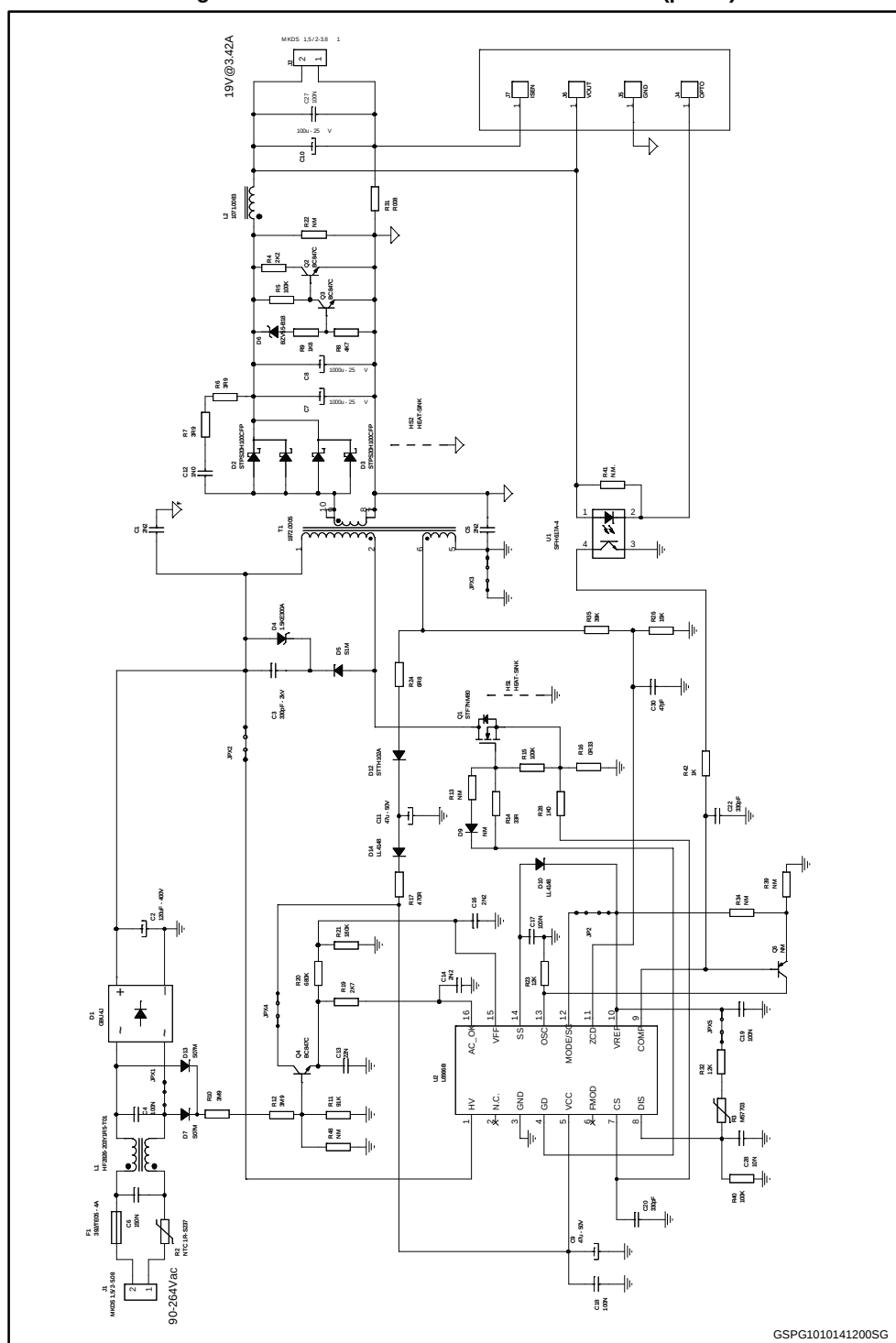
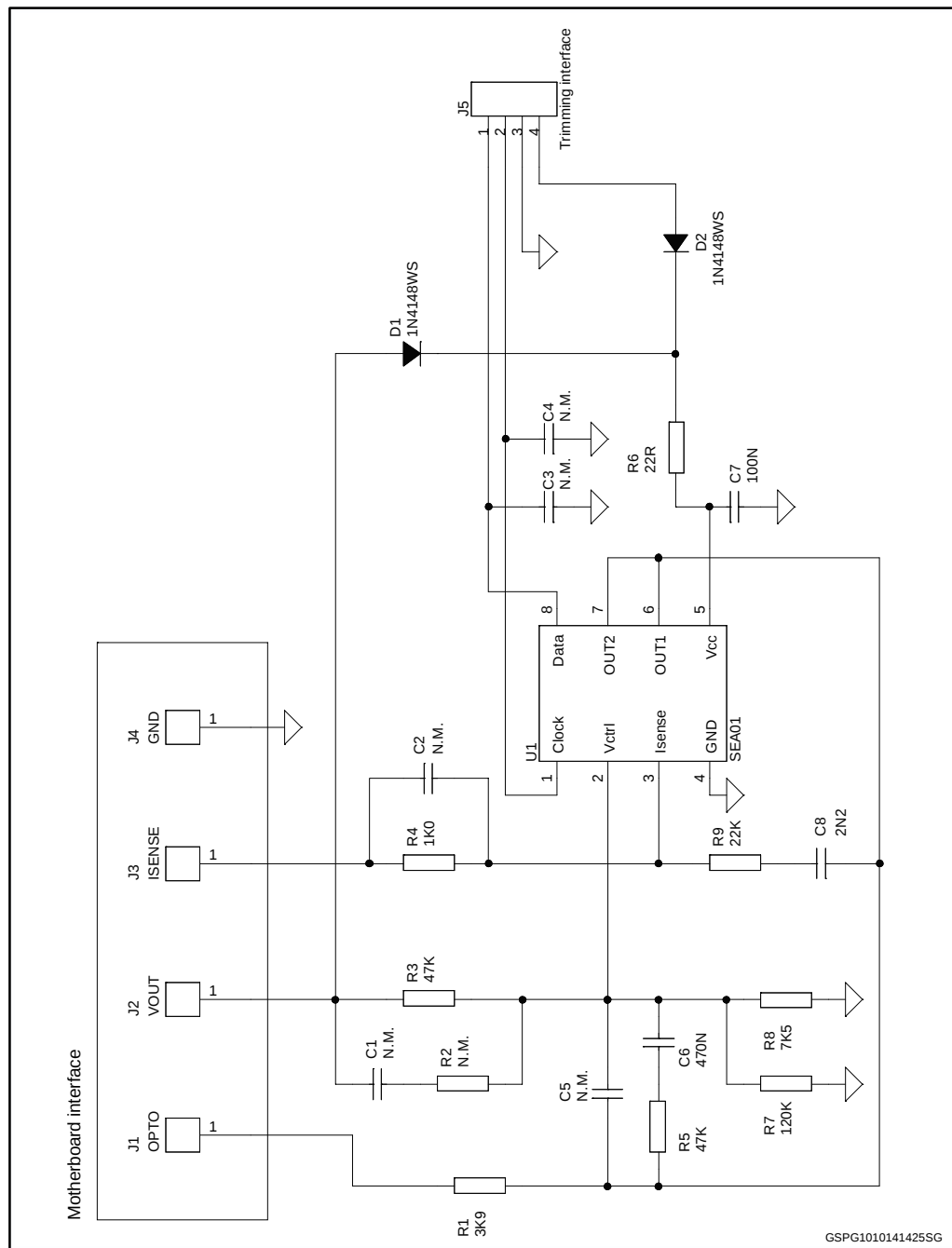


Figure 2: STEVAL-ISA161V1 circuit schematic (part 2)



2 Revision history

Table 1: Document revision history

Date	Rev	Changes
22-Oct-2014	1	First release.
06-Nov-2014	2	Updated titles in figure 1 and figure 2.

IMPORTANT NOTICE – PLEASE READ CAREFULLY

STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST's terms and conditions of sale in place at the time of order acknowledgement.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of Purchasers' products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2014 STMicroelectronics – All rights reserved

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[STMicroelectronics:](#)

[STEVAL-ISA161V1](#)