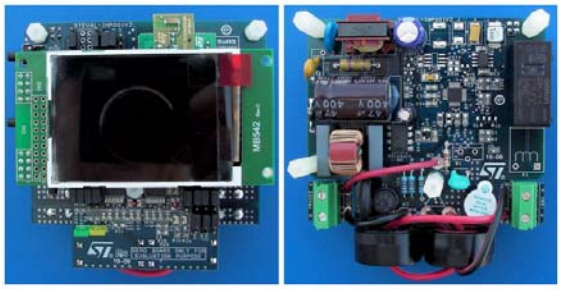
STEVAL-IHP001V3

ZigBee® SmartPlug demonstration board based on the STM32F10x, SPZB260-PRO and STPM01

Data brief

Features

- Monitors energy consumption and electrical parameters
- Power network overload prevention and remote load management in a wireless HAN
- Network/standalone operating modes
- Relay/Triac modes for on/off and dimming features
- RoHS compliant



STEVAL-IHP001V3

Description

The STEVAL-IHP001V3 ZigBee® SmartPlug demonstration board employs the STM32F10x microcontroller, ZigBee SPZB260-PRO module and STPM01 energy metering IC to implement a ZigBee meter node which allows the user to monitor and manage the energy consumption of a connected load.

The SmartPlug board is a demonstration platform which provides guidelines for developing a home/building automation subsystem for energy management.

In a typical home system implementation, the board is plugged into an electrical wall socket, and supplies a home appliance or other generic electrical load.

Current, power, energy and other information related to the electrical load connected to the SmartPlug board can be shown on an LCD display locally, or sent to a ZigBee data concentrator through a home/building ZigBee network.

While the STEVAL-IHP001V3 replaces the STEVAL-IHP001V2, the hardware for both the V2 and V3 versions of the SmartPlug demonstration boards are identical. The STEVAL-IHP001V3 differs from the V2 version only in terms of the ZigBee PRO stack update.

In addition to the ZigBee PRO stack features, this update allows the use of the STEVAL-IFS013V2 USB-ZigBee dongle as network coordinator.

1 Schematic diagrams

Figure 1. AC load driver circuit

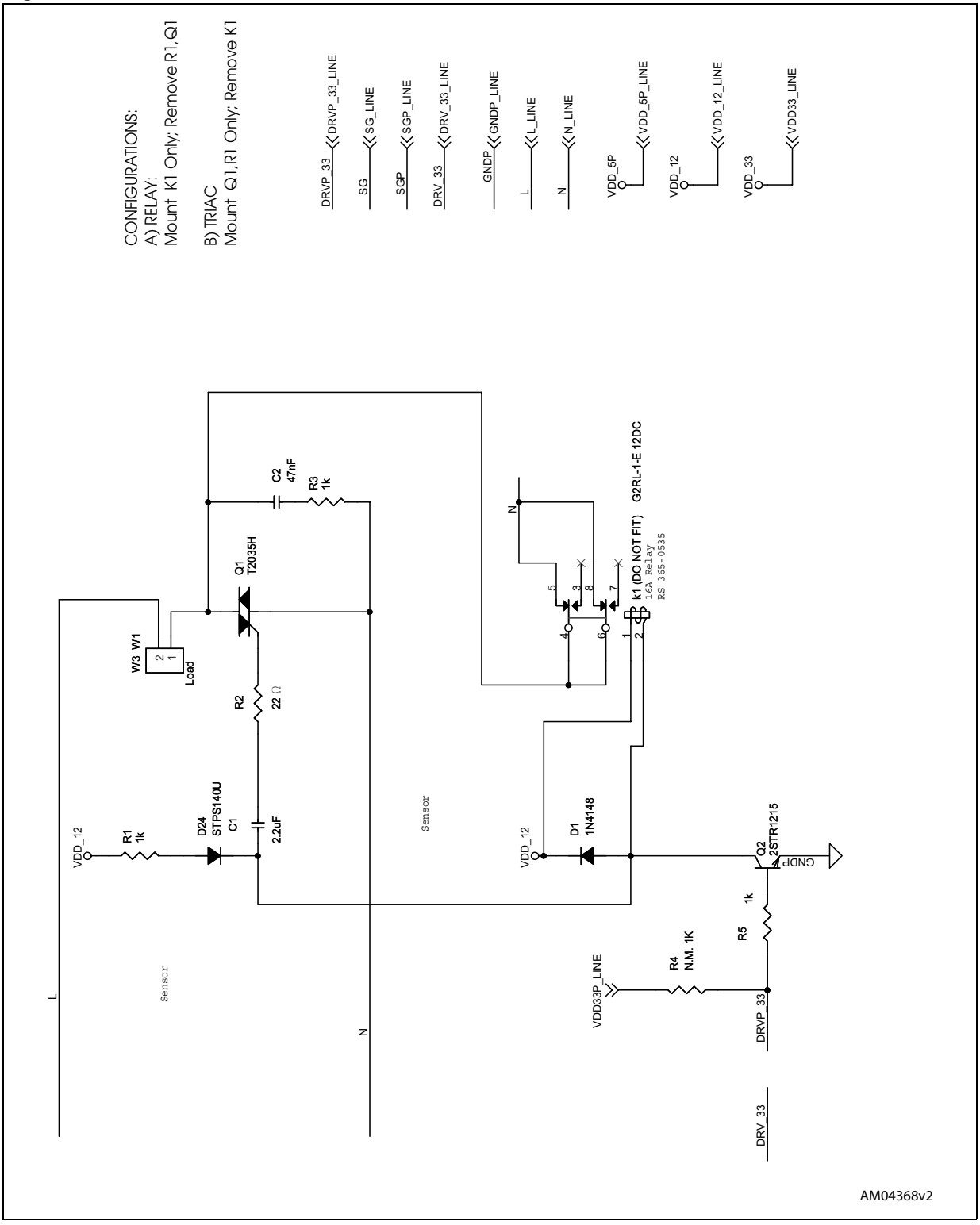


Figure 2. Configuration jumpers

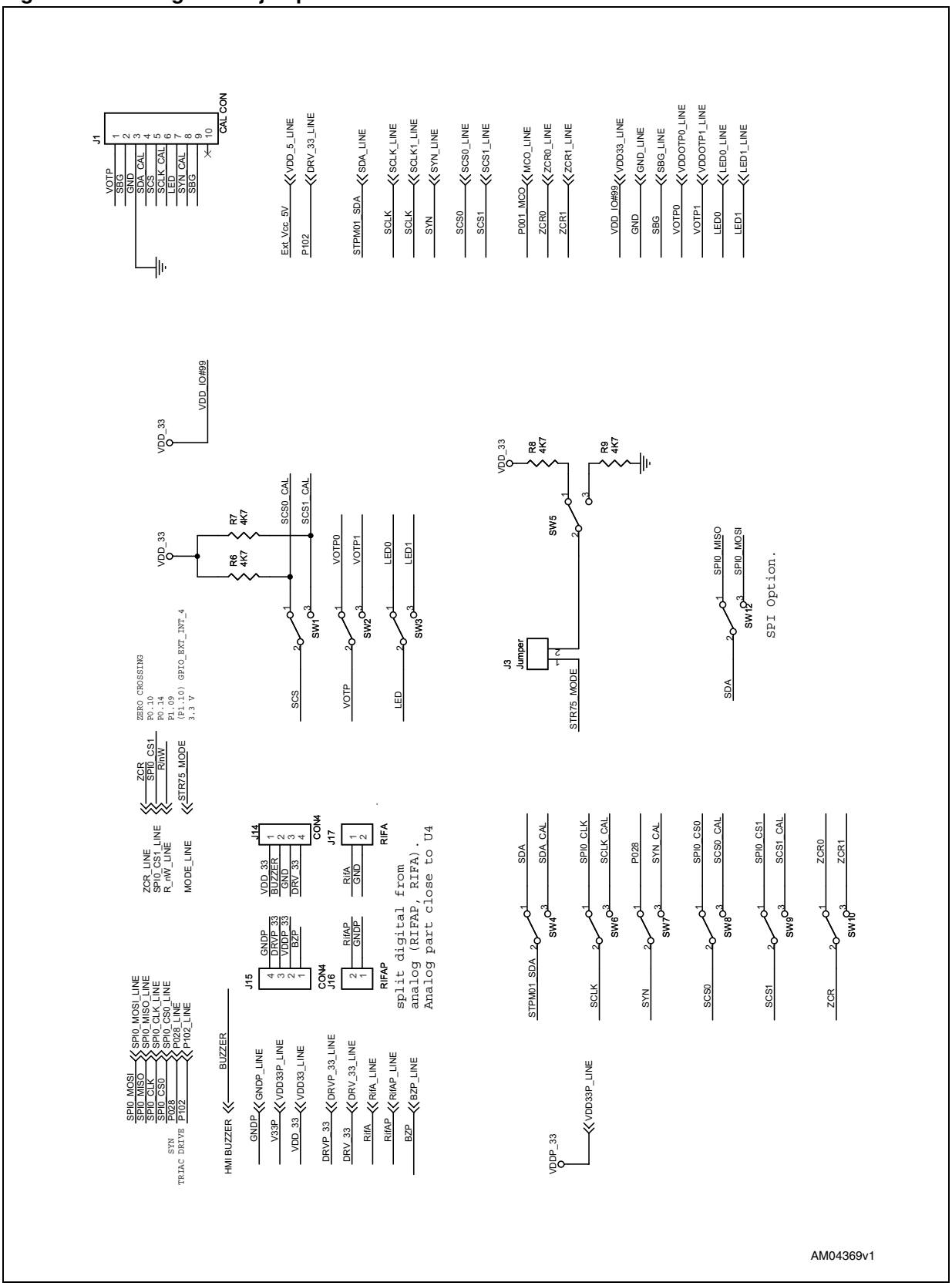


Figure 3. Temperature sensor circuit and connectors

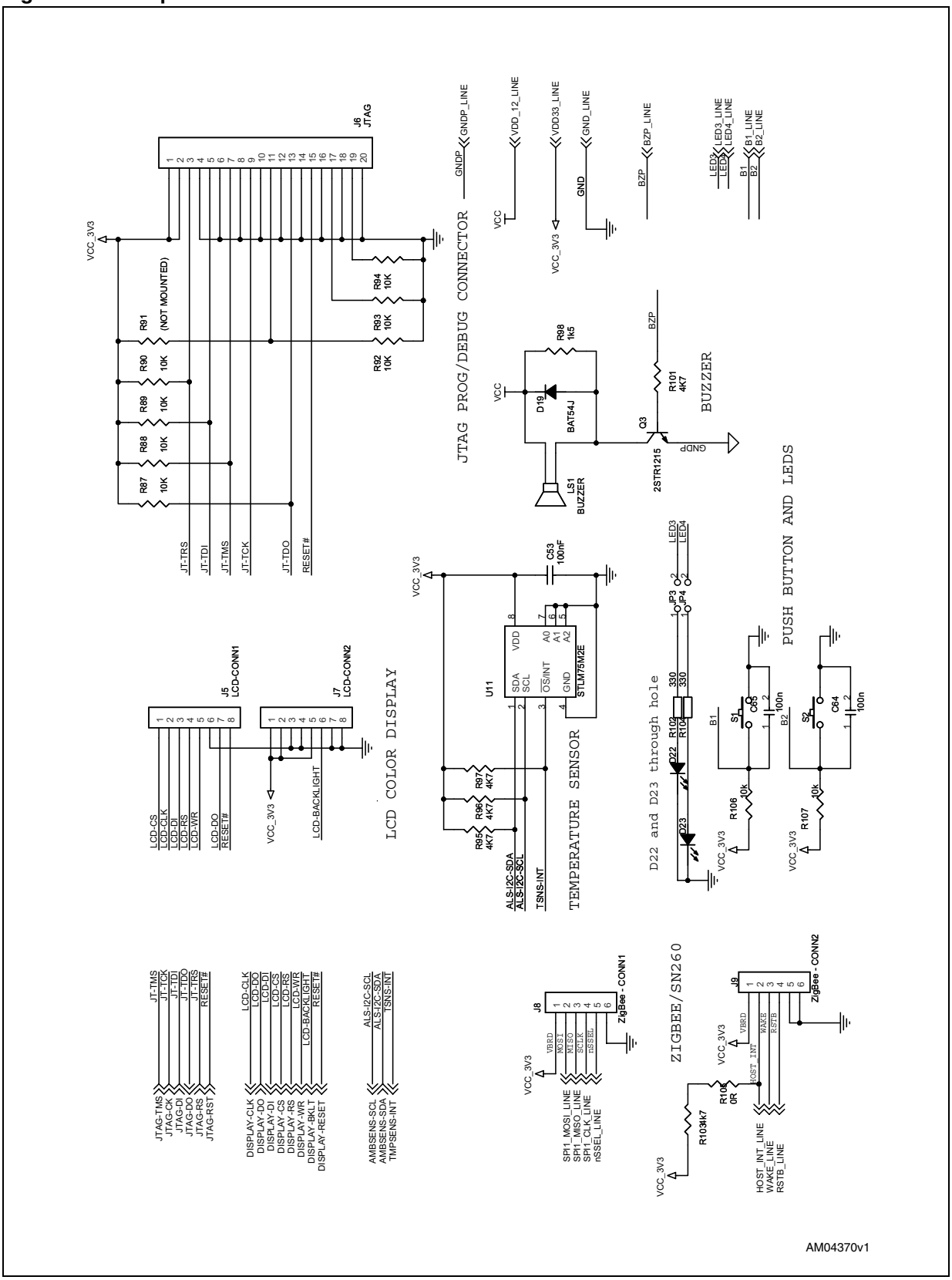


Figure 4. Microcontroller circuit

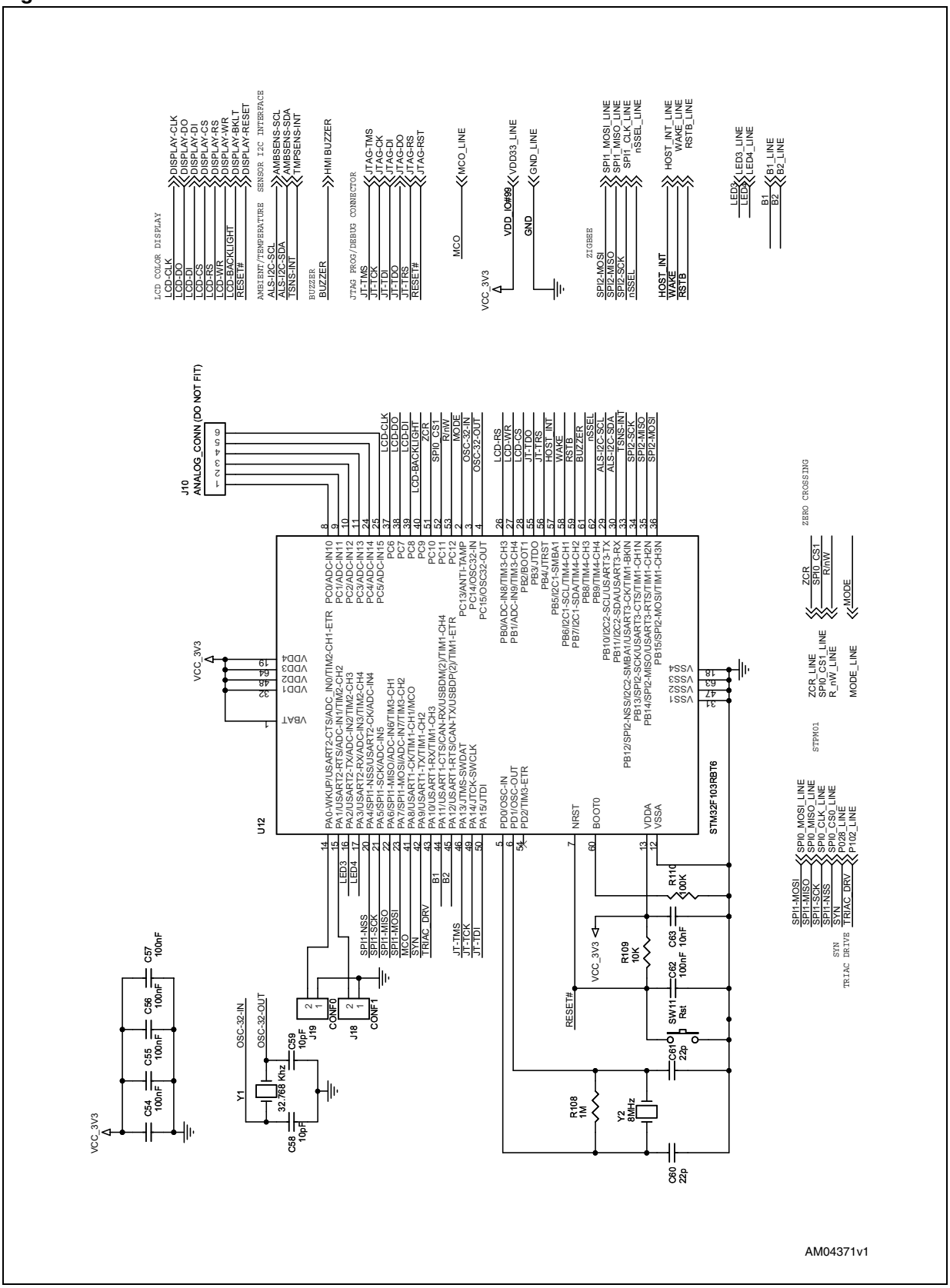


Figure 5. Energy meter circuit

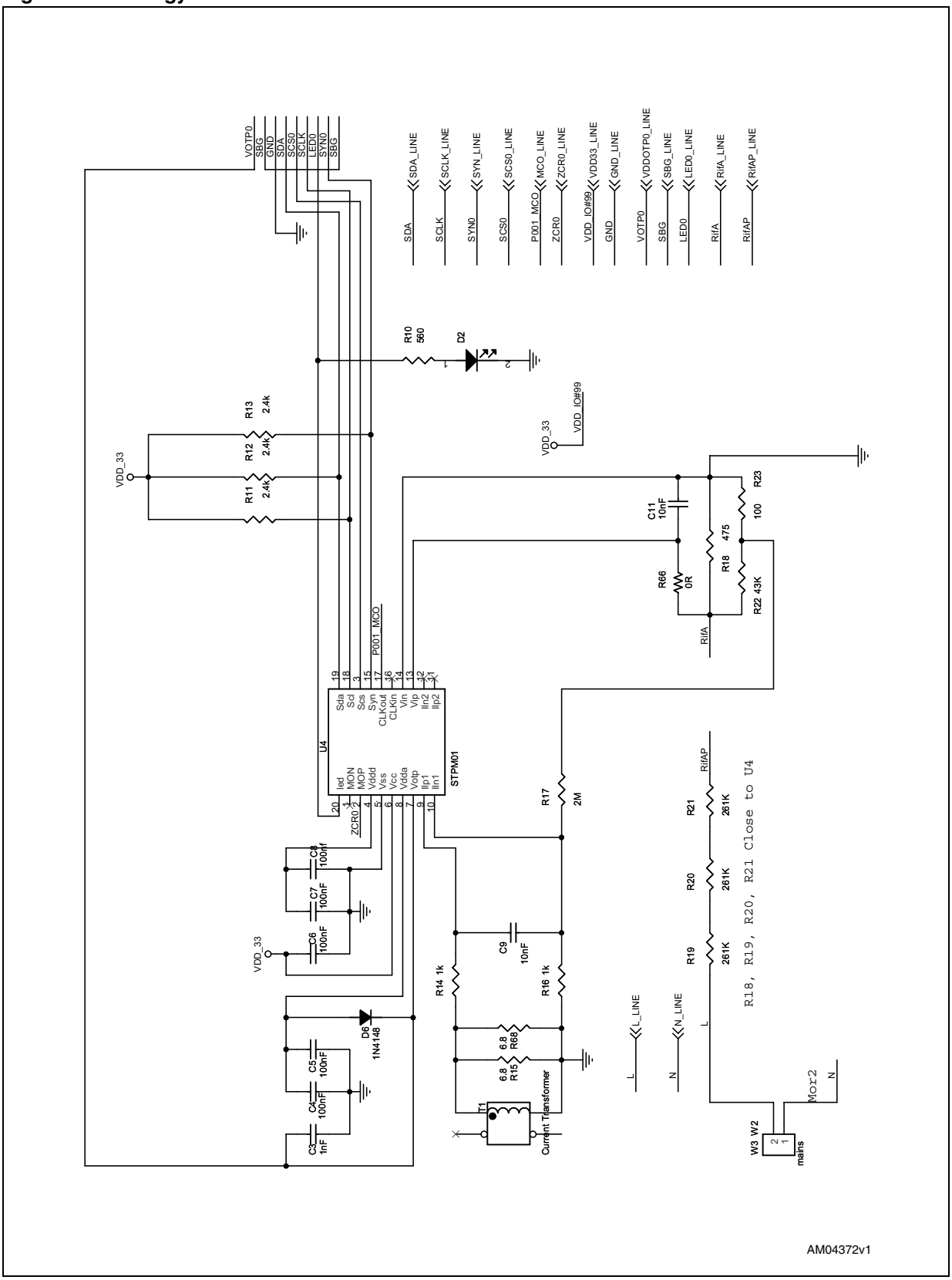


Figure 6. Differential current meter circuit

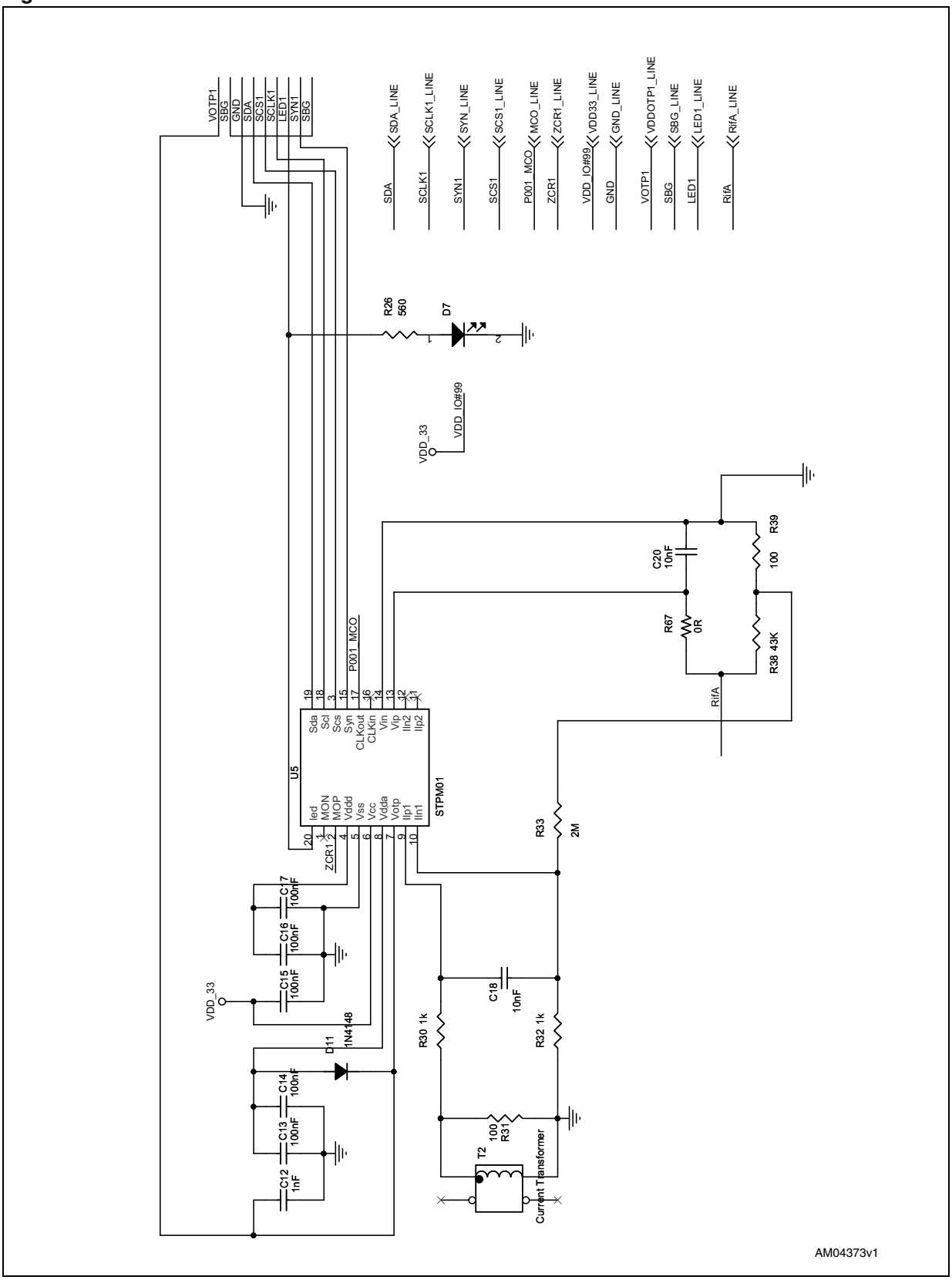


Figure 7. AC-DC converter circuit

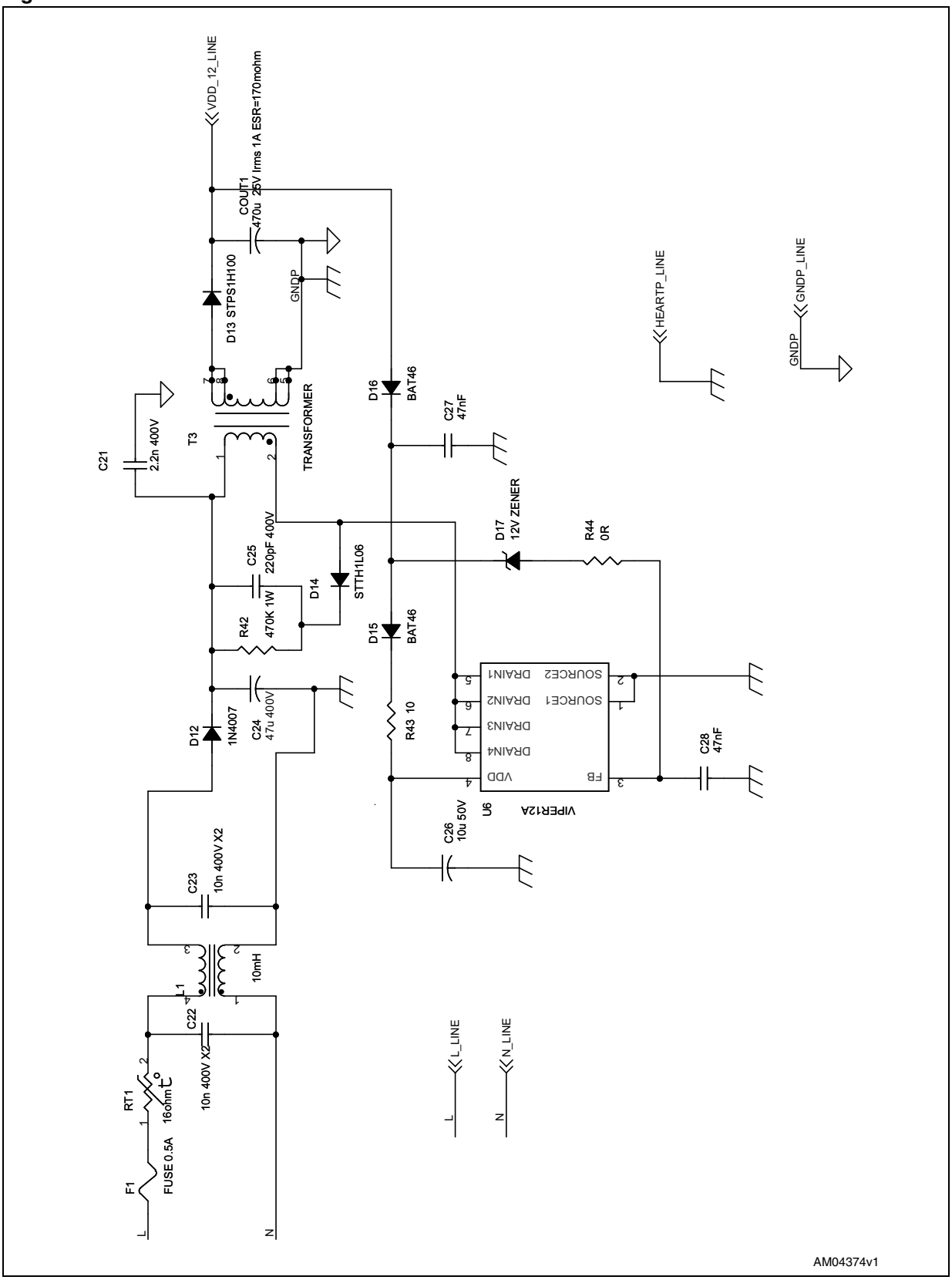
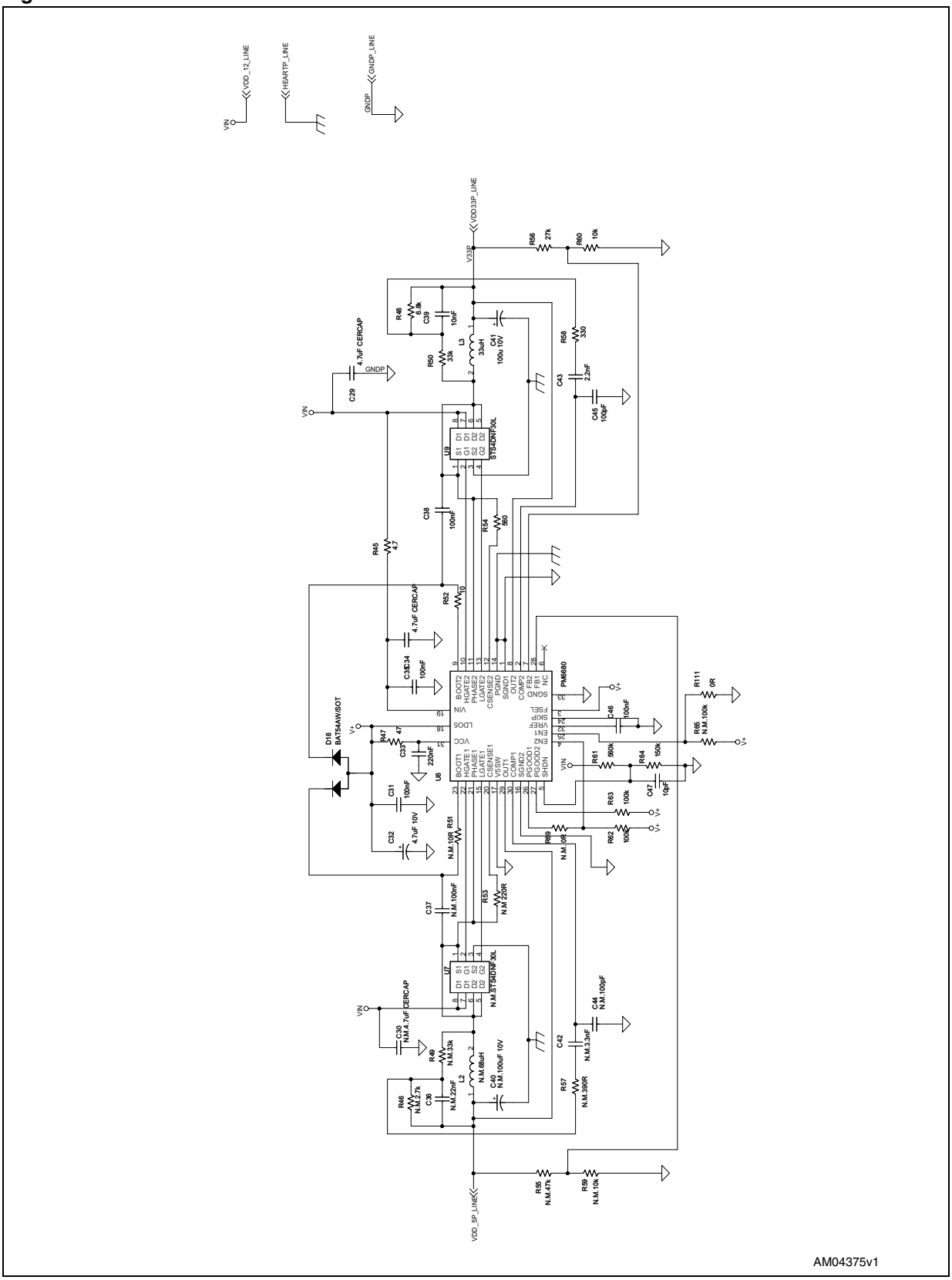


Figure 8. DC-DC converter circuit



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
26-Apr-2010	1	Initial release.

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