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STEVAL-ISA152V1

3.3 V/3 A high efficiency step down DC-DC converter (V_{IN}= 4.5 to 60 V) based on the L7987

Data brief



Features

- 3.3 V output voltage
- 3 A DC output current
- 4.5 V to 60 V input voltage
- 500 kHz switching frequency
- 3.5 ms programmed soft-start
- VBIAS switch-over for improved efficiency at light load
- 180° out of phase synchronization available
- Open drain PGOOD available
- Auto recovery overcurrent and thermal protection
- RoHS compliant

Description

The STEVAL-ISA152V1 product evaluation board is a step-down switching power supply based on the L7987 regulator in an HTSSOP16 package. The output voltage can be set starting from 0.8 V. Low drop-out operation, with almost 100% duty cycle, can be achieved.

The L7987 is a 61 V, 3 A step-down asynchronous switching regulator with embedded power MOSFET caable of delivering up to 3 A of current, depending on the application conditions.

The embedded switch-over feature on the VBIAS pin and the light load management (pulse skipping) are intended to maximize power conversion efficiency across the entire load range.

The soft-start, current limit threshold and the switching frequency are adjustable for application optimization.

The device includes an internal 250 kHz oscillator that can be externally adjusted up to 1.5 MHz; two L7987 regulators can be synchronized in a 180° out-of-phase configuration for reduced total input RMS current.

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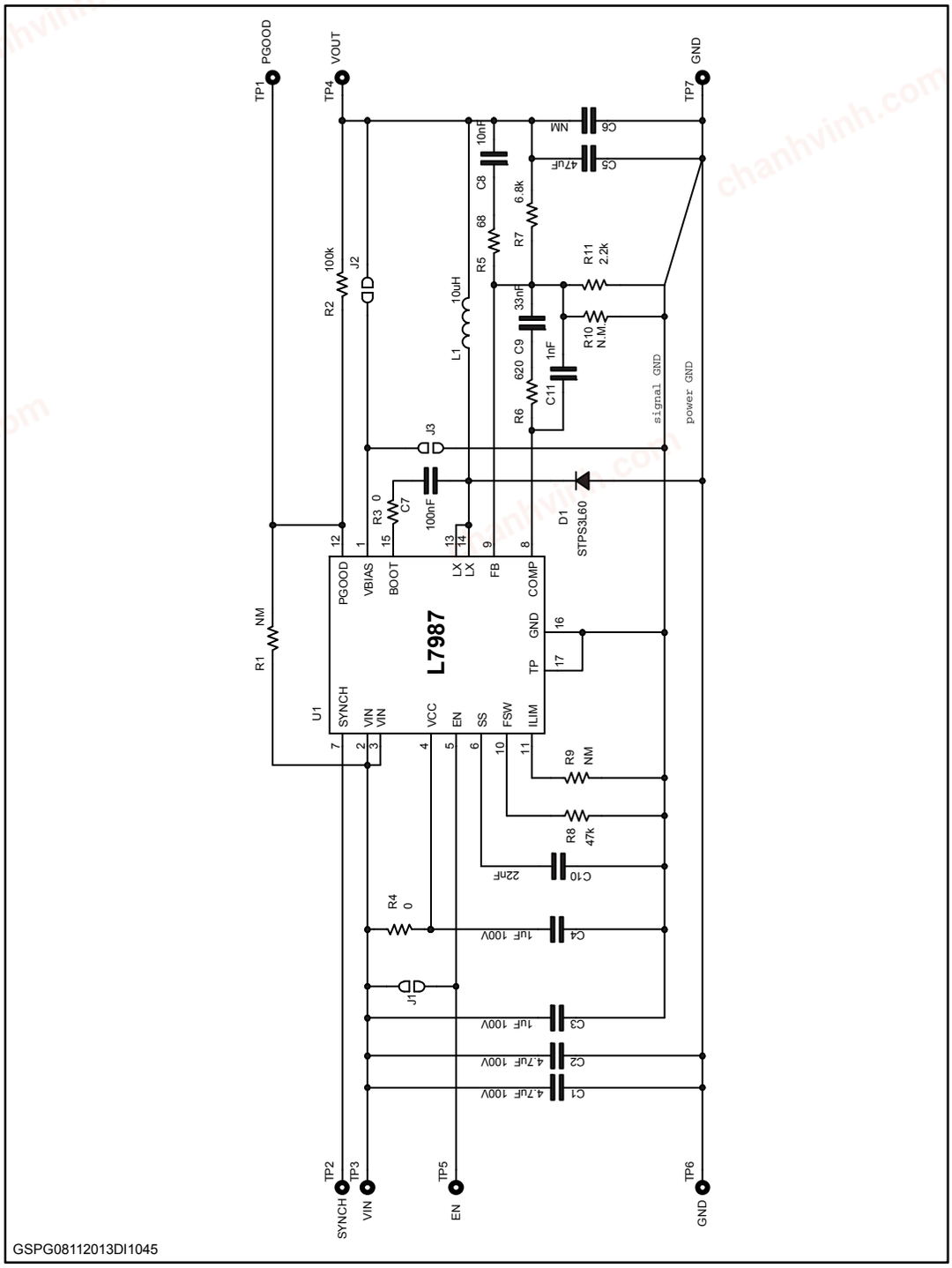
1 Schematic diagram

Figure 1: Schematic diagram



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2 Revision history

Table 1: Document revision history

Date	Rev	Changes
09-May-2014	1	First release.

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