STEVAL-SPDC01V1
STEVAL-SPDC01V2

10 A DC-DC high density PoL convert module demonstration boards based on the SPDC12L00010

Data brief

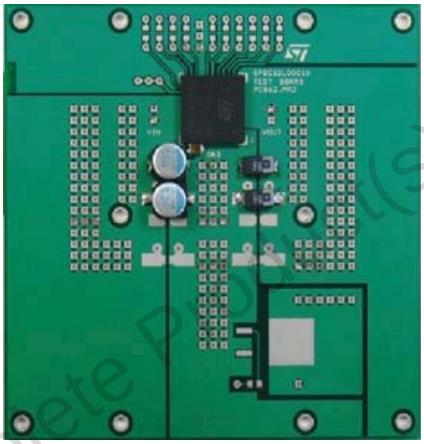
Features

- 10 A max output current
- Input voltage range from 1.8 V to 14 V
- Supply voltage range from 4.5 V to 14 V
- Fixed or adjustable output voltage down to 0.6 V
- Fixed frequency voltage mode control
- Adjustable switching frequency
- Soft-start and inhibit
- Selectable UVLO threshold (5 V or 12 V bus)
- Master/slave synchronization with 180° phase shift
- Pre-bias startup capability
- Selectable source/sink or source only capability after soft-start
- Power Good output with programmable delay
- Overvoltage protection with selectable latched/not-latched mode
- Thermal shutdown
- Operating temperature range from - 40 °C to 85 °C
- Pb-Free and RoHS compliant

Description

The boards are based on a single module SPDC12L00010, high density 10 A DC-DC converter, that implements a complete step-down power supply.

A single LGA package includes ST switching controller, power FETs, inductor and all the support components and it is able to operate over a wide input voltage range of 1.8 V to 14 V, supporting an output range of 0.6 V to 5 V. High level of integration and synchronous rectification allows this module to deliver up to 10 A continuous current at up to 93% efficiency,



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without external heat sink or airflow. The device is a complete standalone surface mount power supply, that can be handled and assembled like a standard integrated circuit. Moreover its low profile design permits to be soldered onto the back side of a printed circuit board, freeing up valuable board space.

The SPDC12L00010 is self-protected against overvoltage and short-circuit conditions.

A built-in adjustable soft-start and inhibit guarantee correct functionality whatever the load is.

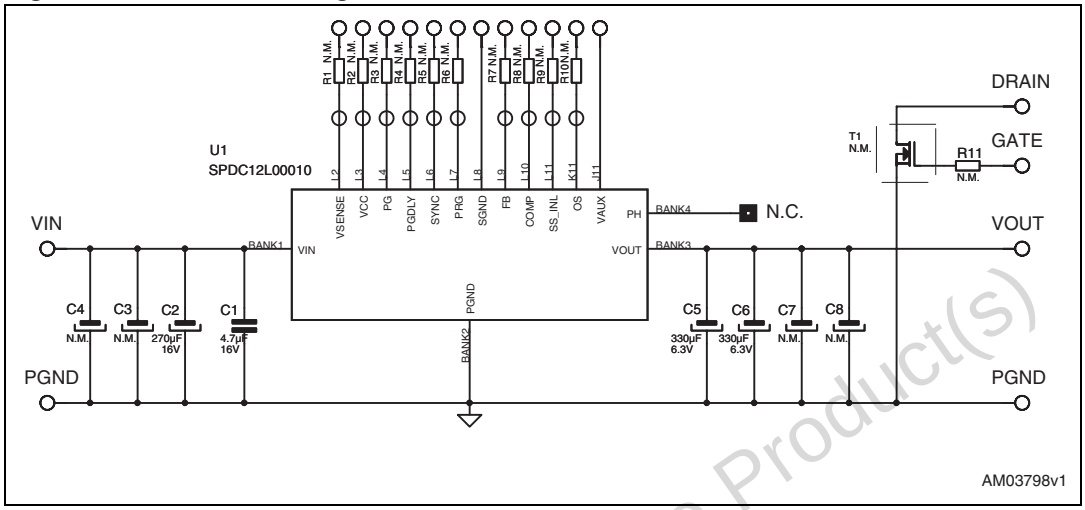
Pre-bias start up capability is in place as well Power Good output with programmable delay to avoid false signals.

The device is packaged in a thermally enhanced, compact (15 x 15 mm) and low profile (3 mm) overmolded land grid array (LGA) package, suitable for automated assembly by standard surface-mount equipment.

The demonstration boards are an essential tool for testing the module and it is Pb-Free and RoHS compliant.

1 Circuit schematic

Figure 1. Schematic diagram



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
21-Apr-2009	1	Initial release.
19-Oct-2009	2	Inserted new part number

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