

# Powerful PWM buck controllers in 8-pin package

Two new DC-DC controllers for high current cost effective solutions



STMicroelectronics' L6726A and L6727 are PWM fixed frequency synchronous controllers with embedded Power MOSFET drivers. Housed in an SO-8, they are available for a broad range of applications requiring space saving solutions.

High performance gate drivers allow the design of converters for currents in excess of 25A over a wide input voltage range.

Different types of control loops and protection features offer high flexibility combined with a very low complexity.

## Key features

- 5V to 12V supply voltage
- Internal reference 0.8V
- Output voltage accuracy  $\pm 1\%$
- 1.5V minimum input voltage
- Adaptive anti cross-conduction control
- Protection against feedback disconnection
- Sensorless over-current protection across LS Power MOSFET
- Soft-start

## Main applications

- Subsystem power supply (MCH, IOCH)
- Microprocessor and DSP power supply
- Memory and termination supply
- Personal computer peripherals
- Consumer power supply
- General DC-DC converters

The L6726A and L6727 allow simple, cost effective design of complete stepdown voltage regulators. They provide a full solution by integrating a 0.8V reference, control logic and protection, and NMOS drivers in an 8-pin package.

The supply voltage ranges from 5V to 12V, and the power rail can be as low as 1.5V. The output voltage is regulated with a tolerance of  $\pm 1\%$  over temperature and line voltage variations.

The devices embody an anti shoot-through and adaptive dead-time control to minimize the low side body diode conduction time, maintaining high efficiency and avoiding the usage of Schottky diodes.

Over-current protection, with programmable threshold, is achieved through Low-Side Power MOSFET sensing, thus eliminating the need for a current-sense resistor.

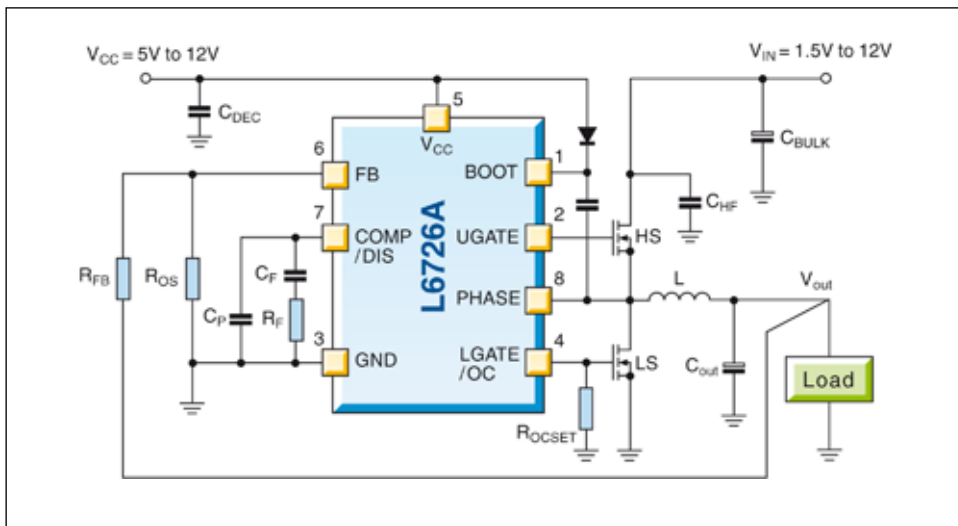
The feedback disconnection protection avoids dangerous voltage levels to the load in case of misconnections.

Soft-start and disable functions are available in both devices. Moreover, their low-side-less startup function allows the supply of pre-biased loads without generating negative spikes on the output voltage.

The L6726A provides a simple control loop with transconductance error amplifier and soft-start programmability.

The L6727 brings a high bandwidth voltage mode control with over-voltage / under-voltage protection.

Because of its small size and easy reworkability, the SO-8 package meets the requirements of most application designers.



L6726A typical application circuit

## Single-phase solutions for compact power management

Part number	Main applications	Regulated output	IC supply voltage [V]	Output accuracy	Drivers peak current [A]	Oscillator	OV/UV protections	Soft-start	Package
L6726A	DDR memory, MCH, IOCH, General DC-DC	Adjustable from 0.8V	5 and 12	$\pm 1\%$	2	270kHz	N	Programmable	SO-8
L6727						300kHz	Y	5ms	



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