



Four-way 4A or single-way 16A DC/DC regulators

1 Main features:

- ◆ Four channel output step-down micro module regulator with 4A current per output
- ◆ Wide input voltage range: 3V to 16V
- ◆ Output voltage range: 0.6 to 5.5V
- ◆ Each continuous current is 4A, peak output current is 5A
- ◆ Fixed switching frequency: 1.2MHz
- ◆ Fast transient response without external compensation
- ◆ Soft startup time that can be programmed externally
- ◆ Over voltage protection (OVP), Under voltage protection (UVP), over current protection (OCP), short circuit protection (SCP) and over temperature protection

2 Typical application

- ◆ Multi-rail load point regulation
- ◆ FPGA, DSP and MTIC applications

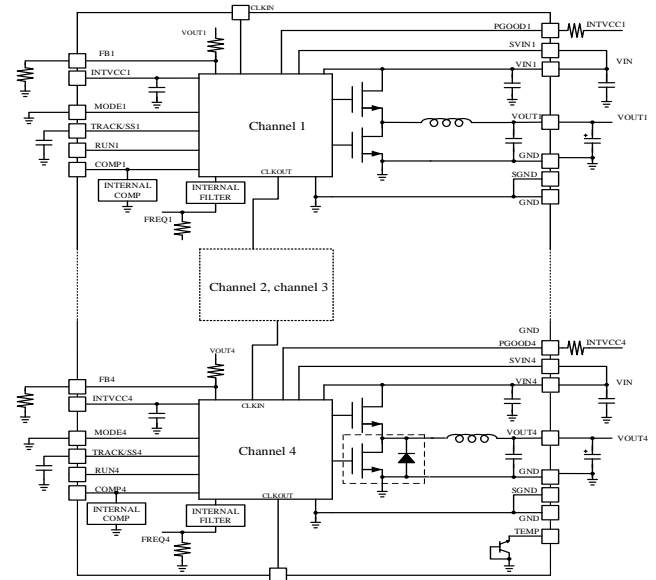
3 Product description

The HL4644 is a four-way DC/DC step-down micromodule regulator with 4A output per channel. Outputs can be paralleled in arrays to achieve up to 16A capabilities. The switch controller, power FETs, inductors and support components are built into the package. The HL4644 operates in an input voltage range of 4V to 16V or 2.375V to 16V (with an external bias supply) and supports an output voltage range of 0.6V to 5.5V.

5 Compared with similar foreign products

	Input voltage range (V)	Clock frequency range (KHz)	Linear adjustment rate (%/V)	Load adjustment rate (%)	Encapsulation form
LTM4644(ADI)	4~14	1000	≤0.15	≤1	BGA
HL4644	4~16	1000	≤0.15	≤1	BGA

Its high-efficiency design provides 4A continuous (5A peak) output current for each channel. Only large capacity input and output capacitors are required. The internal structure block diagram of the chip is as follows:



4 Product highlights

- ◆ Wide input voltage range, high conversion efficiency, fast transient response.
- ◆ Adjustable switching frequency, external frequency synchronization.
- ◆ Can realize any parallel output, while multi-phase operation.