

High Voltage COT Step-Down Synchronous Converter (DC-DC)

1 Main features:

- COT working mode
- ♦ Fast transient response
- Low output ripple
- ♦ The conversion efficiency can reach 90%
- ♦ Reference voltage 0.765V
- ♦ 5A current output
- ♦ 650KHz fixed frequency
- Light load mode switch
- ◆ 4.5V-18V input voltage
- Integrated internal compensation
- ♦ Short circuit protection
- ♦ ESOP8 package

2 Typical application

- Digital TV power supply system
- Blu-ray disc player power supply system
- ♦ Network home terminal
- Digital set-top box
- Laptop

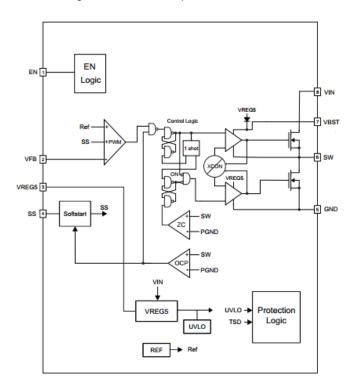
3 Product description

The HL2658AF is an integrated, efficient 5A synchronous rectifier buck converter. The HL2658AF uses COT (constant on-time) control technology to achieve fast voltage response of the system under 0-5A load jumps, while having high efficiency.

The device adopts adaptive multi-mode switching technology to achieve high efficiency in the full load range.

5 Compared with similar foreign products

The HL2658AF requires minimal external components and is packaged in an 8-pin ESOP8 RoHS package. Ensures good output linearity over a wide frequency range. The internal structure block diagram of the chip is as follows:



4 Product highlights

- COT control technology is adopted.
- ◆ Less external components can reach output 5A current.
- ◆ 0-5A load jump drop voltage is less than 50mV.
- Low output ripple.
- ◆ Full load range high efficiency.

	Input voltage range	Maximum output current	Static current	Turn-off current	Soft-start capacitance	Switching tube impedance	Encapsulation form
TPS54528 (TI)	4.5V~18V	5A	900uA	5uA	Need	65mΩ/36mΩ	ESOP8
HL2658AF	4.5V~18V	5A	900uA	5uA	Need	$65 \mathrm{m}\Omega/36 \mathrm{m}\Omega$	ESOP8