



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

1 Main features:

- ◆ Reference voltage 0.807V
- ◆ 3A current output
- ◆ 600KHz switching frequency
- ◆ Fast transient response
- ◆ 4.5V-16V input voltage
- ◆ Integrated internal compensation
- ◆ Short circuit protection
- ◆ Internal failure protection
- ◆ Pulse current limit and soft start

2 Typical application

- ◆ Distributed power system
- ◆ Digital set-top box
- ◆ Flat panel TV and monitor
- ◆ Wireless and DSL modems
- ◆ Laptop

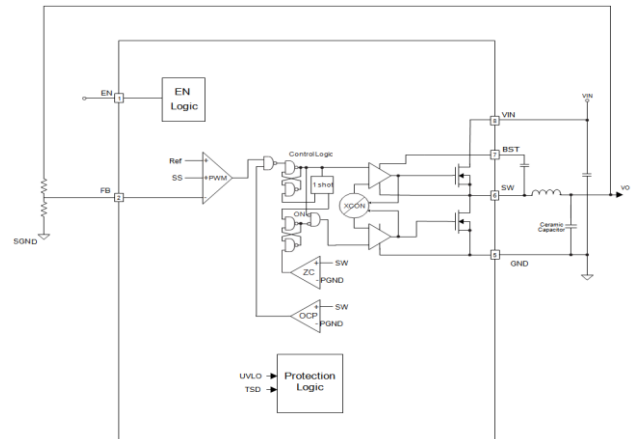
3 Product description

The HL2638BZ is a highly integrated high frequency, synchronous rectifier, buck, switching mode converter with built-in power MOSFETs.

5 Compare with similar products

	Input voltage range	Maximum output current	Static current	frequency	Switching tube impedance	Encapsulation form
MP1658 (MPS)	4.5V~16V	3A	10uA	600KHz	110mΩ/60mΩ	SOT563
HL2638BZ	4.5V~16V	3A	10uA	600KHz	110mΩ/60mΩ	SOT563

The main control loop of the HL2638BZ uses COT mode control to provide fast transient response without the need for external compensation components. Constant on-time control mode provides very fast transient response and simple loop design, as well as very strict output regulation. The internal structure block diagram of the chip is as follows:



4 Product highlights

- ◆ COT control technology is adopted
- ◆ Less external components can achieve output 3A current
- ◆ Fast transient response and low output ripple
- ◆ Full load range high efficiency