

## 13V,10A Fully-Integrated Synchronous Boost Converter

### ■ FEATURES

- Input voltage range  $V_{IN}$ : 2.7V to 13V
- Output voltage range  $V_{OUT}$ : 4.5V to 13V
- switch peak current limit: up to 10A
- High Efficiency  
93% ( $V_{IN} = 7.4V, V_{OUT}=12V, I_{OUT} =3A$ )  
92% ( $V_{IN} = 3.6V, V_{OUT}=9V, I_{OUT} =1A$ )
- PFM modulation mode at light load
- 1.0 $\mu$ A current consumption during shutdown
- Fix switching frequency
- FIX soft start time
- Output overvoltage protection (at 14V), cycle-by-cycle overcurrent protection, thermal shutdown protection
- Pb-free Packages,SOP8-PP

### ■ APPLICATIONS

- Wireless/ Speakers    • Portable Speakers
- Quick Charge Power Bank    • E-Cigarette
- Power Interface (USB Type-C, Thunderbolt)
- POS Terminal            • Tablet PC/Note Book

### ■ DESCRIPTION

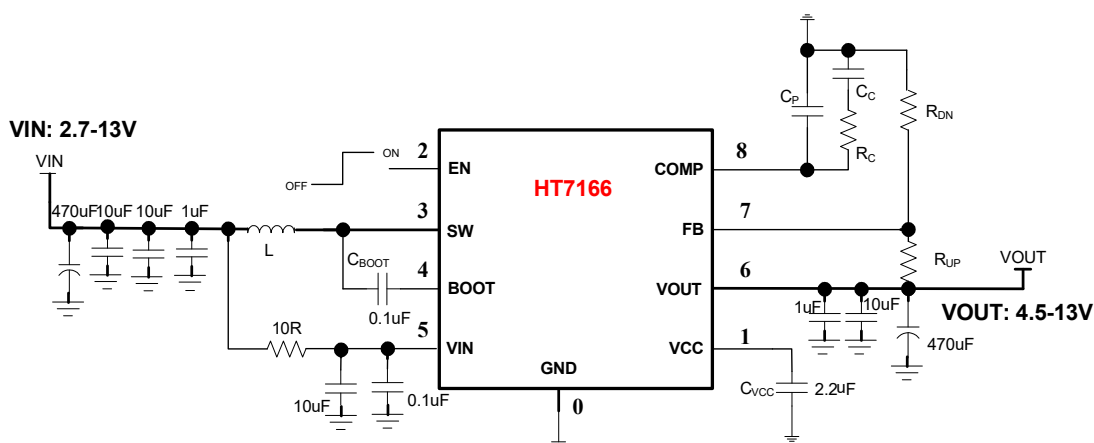
The HT7166 is a high-power density, fully integrated

synchronous boost converter with a 16m $\Omega$  power switch and a 23m $\Omega$  rectifier switch to provide a high efficiency and small size solution in portable systems. The HT7166 has wide input voltage range from 2.7 V to 13 V to support applications with single cell and two cell Lithium batteries. The device has 10A switch current capability and can provide an output voltage up to 13V.

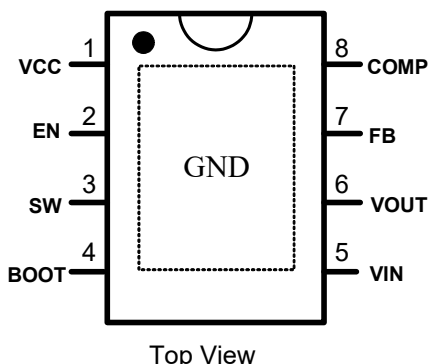
The HT7166 uses adaptive constant off-time peak current control topology to regulate the output voltage. In moderate to heavy load condition, it works in the PWM mode. In light load condition, the device works in the PFM mode to improve the efficiency. The switching frequency in the PWM mode is fixed.

The HT7166 also implements a fix soft-start function and a fixed switching peak current limit function. In addition, the device provides 14V output overvoltage protection, cycle-by-cycle overcurrent protection, and thermal shutdown protection

### ■ TYPICAL APPLICATION



## ■ TERMINAL CONFIGURATION



## ■ TERMINAL FUNCTION

Terminal No.	NAME	I/O <sup>*1</sup>	Description
1	VCC	O	Output of the internal regulator. A ceramic capacitor of 2.2uF is required between this pin and ground.
2	EN	I	Enable logic input. Logic high level enables the device. Logic low level disables the device and turns it into shutdown mode.
3	SW	PWR	The switching node pin of the converter.
4	BOOT	O	Power supply for high-side MOSTFET gate driver. A ceramic capacitor of 0.1μF must be connected between this pin and the SW pin.
5	VIN	I	IC power supply input.
6	VOUT	PWR	Boost converter output.
7	FB	I	Voltage feedback.
8	COMP	O	Output of the internal error amplifier, the loop compensation network should be connected between this pin and the GND pin.
0	GND	PWR	Power ground of the IC.

<sup>1</sup> I: input O: output PWR: power

**ORDERING INFORMATION**

Part Number	Package Type	Marking	Operating Temperature Range	Shipping Package / MOQ
HT7166SPET	SOP8-PP	HT7166	-40°C~85°C	Tube/100PCS

## IMPORTANT NOTICE

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