



## 26.8V, 15A 高效升压转换器

### 26.8V, 15A Boost Converter

#### ■ HT7179 FEATURES

- Input voltage range: 2.7V to 25V
- Output voltage range: up to 26.8V
- Internal Fixed PWM frequency: 350kHz
- Programmable switch peak current limit: up to 15A
- High Efficiency
- 95% (PVIN = 12V, VOUT=25V, IOU =2A)
- 94% (PVIN = 12V, VOUT=25V, IOU =4.5A)
- 93% (PVIN = 7.2V, VOUT=12V, IOU =1.5A)
- 90% (PVIN = 7.2V, VOUT=12V, IOU =5A)
- 96% (PVIN = 12V, VOUT=18V, IOU =1.5A)
- 95% (PVIN = 12V, VOUT=18V, IOU =6A)
- 1.0 $\mu$ A current consumption during shutdown
- Two modes with different tr/tf for EMI solution
- Programmable soft start
- Output overvoltage protection (at 28V), thermal shutdown protection
- Pb-free Packages,ESOP16, QFN3 $\times$ 3.5-20L

- 输入电压范围: 2.7V-25V
- 输出电压范围: 最高26.8V
- 固定开关频率: 350kHz
- 可编程峰值电流: 最高15A
- 高转换效率:
- 95% (PVIN = 12V, VOUT=25V, IOU =2A)
- 94% (PVIN = 12V, VOUT=25V, IOU =4.5A)
- 93% (PVIN = 7.2V, VOUT=12V, IOU =1.5A)
- 90% (PVIN = 7.2V, VOUT=12V, IOU =5A)
- 96% (PVIN = 12V, VOUT=18V, IOU =1.5A)
- 95% (PVIN = 12V, VOUT=18V, IOU =6A)
- 低关断功耗, 关断电流1 $\mu$ A
- 支持两种tr/tf模式, 应对EMI挑战
- 可编程软启动
- 输出过压 (28V)、热关断等保护
- ESOP16, QFN3 $\times$ 3.5-20L无铅封装

#### ■ HT7179 APPLICATIONS

- |                                             |                       |                   |          |
|---------------------------------------------|-----------------------|-------------------|----------|
| · Wireless/ Speakers                        | · Portable Speakers   | · 无线音箱            | · 便携式音箱  |
| · Power Bank                                | · Chargers            | · 移动电源            | · 充电设备   |
| · Power Interface (USB Type-C, Thunderbolt) |                       | · USB TYPE-C 电源传输 | · 拉杆音箱   |
| · POS Terminal                              | · Tablet PC/Note Book | · 平板电脑, 笔记本电脑     | · POS机终端 |



## ■ HT7179 DESCRIPTION

The HT7179 is a high-power density, asynchronous boost converter with a 20mΩ power switch to provide a high efficiency and small size solution in portable systems. The HT7179 has wide input voltage range from 2.7 V to 25 V to support applications with single cell, two cell Lithium batteries and 12V lead-acid batteries. The device has 15A switch current capability and can provide an output voltage up to 26.8V.

The HT7179 also implements a programmable soft-start function and an adjustable switching peak current limit function. HT7179 integrates two modes with different tr/ff to balance different requirements of EMI and efficiency.

In addition, the device provides 28V output overvoltage protection, and thermal shutdown protection.

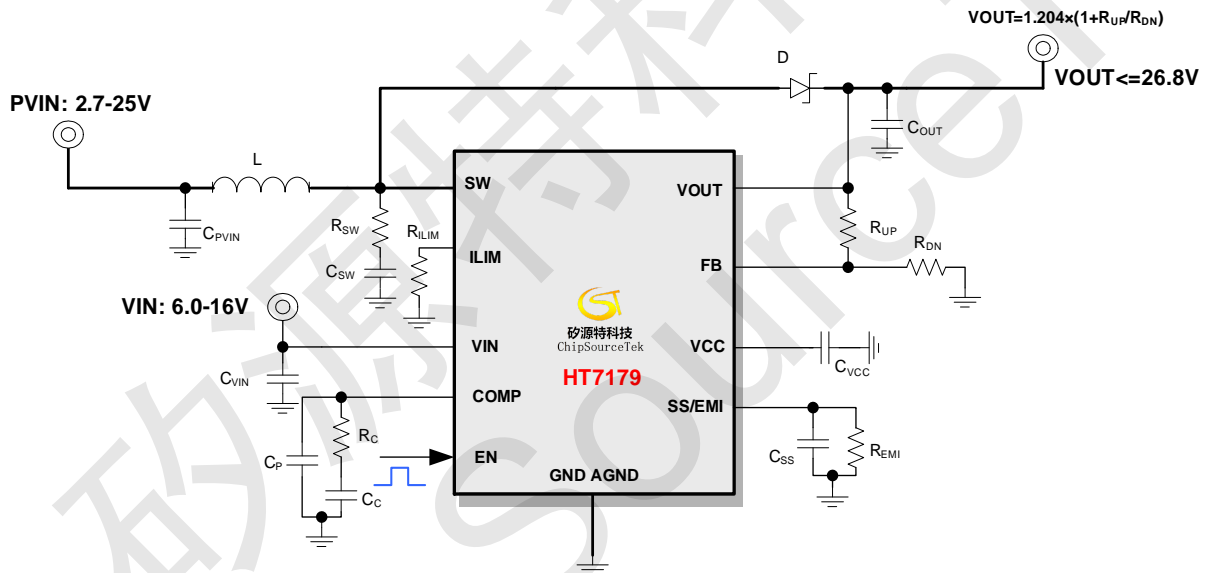
HT7179是一款高功率异步升压转换器，集成20mΩ功率开关管，为便携式系统提供高效的小尺寸解决方案。

HT7179具有2.7V至25V宽输入电压范围，可为采用单节或两节锂电池，或12V铅酸电池的应用提供支持。该器件具备15A开关电流能力，并且能够提供高达26.8V的输出电压。

HT7179还支持可编程的软启动，以及可调节的开关峰值电流限制。HT7179还支持两种不同的tr/ff，以适应不同的EMI和效率需求。

此外，该器件还提供有28V输出过压保护、和热关断保护。

## ■ HT7179 TYPICAL APPLICATION

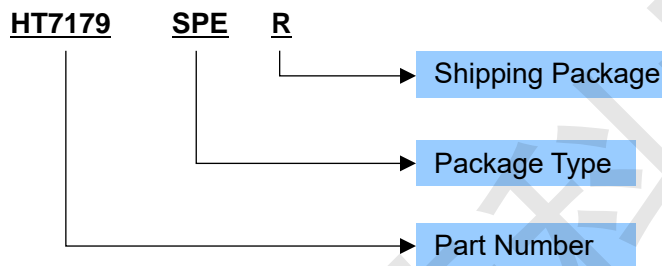




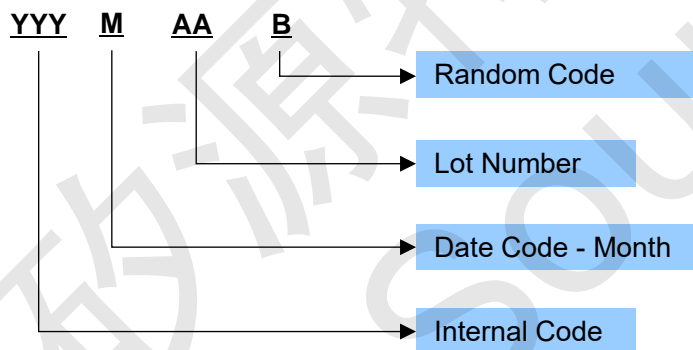
## HT7179 ORDERING INFORMATION

Ordering Number	Package Type	Marking	Operating Temperature Range	Shipping Package / MOQ
HT7179SPER	ESOP16	HT7179 YYYMAAB <sup>1</sup>	-40℃~85℃	Tape and Reel / 2500pcs
HT7179SPET	ESOP16	HT7179 YYYMAAB	-40℃~85℃	Tube / 50pcs
HT7179DNR	QFN3.5x4.5-20L	HT7179 YYYMAAB	-40℃~85℃	Tape and Reel / 5000PCS

### Ordering Number

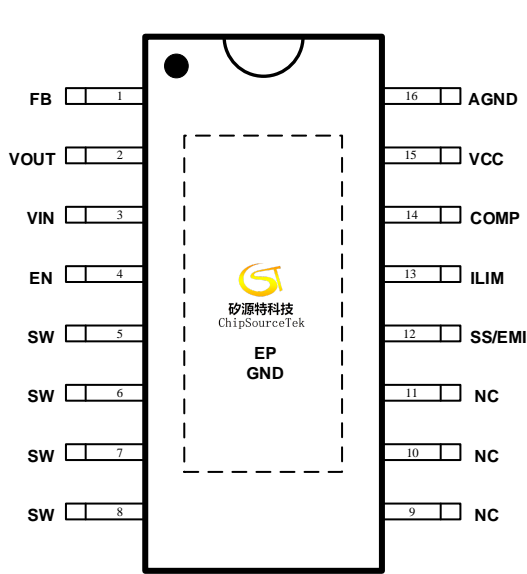


### Production Tracking Code

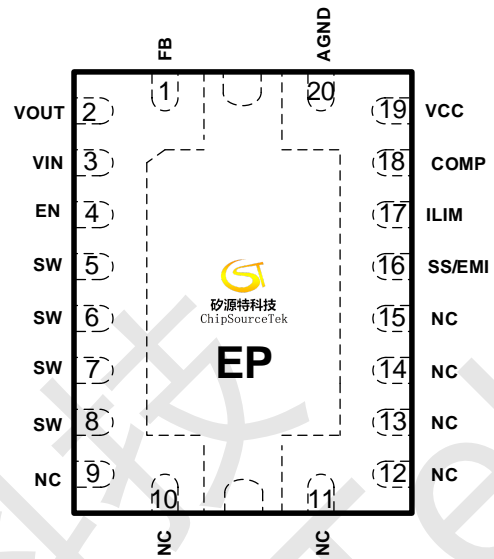




### HT7179 TERMINAL CONFIGURATION



SPE (ESOP16) Top View



DNE (DFN20L) Top View

### HT7179 TERMINAL FUNCTION

Terminal No.	Name	I/O <sup>1</sup>	Description
1	FB	I	Voltage feedback. 电压反馈
2	VOUT	P	Output pin. 输出电压
3	VIN	P	IC power supply input. 电源供电
4	EN	I	Enable logic input. Logic high level enables the device. Logic low level disables the device and turns it into shutdown mode. 使能输入, 高电平芯片工作; 低电平芯片进入关断状态
5,6,7,8	SW	P	The switching node pin of the converter. 开关转换端
9,10,11	NC	/	No internal connection, connect to GND. 内部无连接, 可连接到地
12	SS/EMI	O	Soft-start programming pin. An external capacitor C <sub>ss</sub> connected to ground sets the ramp rate of the internal error amplifier's reference voltage during soft-start, 100nF is usually recommended. 软启动时间设置, 接电容C <sub>ss</sub> 到地, 一般建议用100nF Also used as mode setting for different tr/tf, an external resistor connected to ground sets a flatter tr/tf. 同时作为tr/tf设置脚, 当同时外接1个330k电阻到地时, 选择较缓的tr/tf
13	ILIM	I	Adjustable switch peak current limit. An external resistor should be connected between this pin and the AGND pin. 峰值电流设置端, 接电阻到地
14	COMP	O	Output of the internal error amplifier, the loop compensation network should be connected between this pin and the AGND pin. 环路补偿端
15	VCC	O	Output of the internal regulator. A ceramic capacitor of 1uF is required between this pin and ground. 内部整流输出, 外接1uF电容到地
16	AGND	G	Analog ground of the IC. 模拟地
EP	GND	G	Provides both <b>electrical and thermal connection</b> from the device to the board. <b>A matching ground pad must be provided on the PCB and the device connected to it via solder.</b> For proper electrical operation, this ground pad must be connected to the system ground. 既是地, 又是散热PAD



## IMPORTANT NOTICE

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