

4.0V~30V输入，3.5A同步降压变换器

4.0~30V Input, 3.5A, Synchronous Buck Converter

■ FEATURES

- 3.5A converter with 100mΩ and 60mΩ FETs
 - Fast transient response with minimum external components
 - Input voltage range: 4.0V~30V
 - Output voltage range: 0.8V~13V
 - Pulse skip mode to keep high efficiency in light load
 - 600kHz switching frequency
 - Shutdown current: $\leq 1 \mu\text{A}$ (typical)
 - Soft start and start delay with pre-biased output voltage
 - Cycle-by-cycle over current limit
 - Hiccup-mode over current protection
 - Non-latching Undervoltage protection and Thermal Shutdown protection
 - Enable pin
 - Packages: Pb-free Packages, ESOP8, SOT23-6L
- 3.5A降压，内置100mΩ和60mΩ功率管
 - 于快速瞬态响应，外部元器件少
 - 输入电压范围：4.0V~30V
 - 输出电压范围：0.8V~13V
 - 脉冲跳跃模式使得轻载下高效率
 - 600kHz开关频率
 - 关断电流 $\leq 1\mu\text{A}$ (典型值)
 - 软起动，输出预先有电压时有启动延迟
 - 逐周期过流检测限制
 - 打嗝模式过流关断
 - 欠压保护、过热关断保护，不锁定可自动恢复
 - 具有使能pin
 - 无铅封装，ESOP8, SOT23-6L

■ APPLICATIONS

- 5V, 12V or 24V power rail applications
 - TV
 - Consumer electronics
 - Industrial power supplies
- 5V, 12V或24V电源轨
 - 嵌入式系统
 - 消费电子
- 电视
 - 机顶盒
 - 工业电子

DESCRIPTION

The HT77231 is a 3.5A, step-down, buck converter with minimum external components and low shutdown current.

The device delivers a fast transient response with both low ESR (polymer) and ultra-low ESR (ceramic) output capacitors, and no external compensation is needed.

The device operates in Pulse Skip Mode when in light load with high efficiency.

The HT77231 is available in ESOP8, SOT23-6L packages.

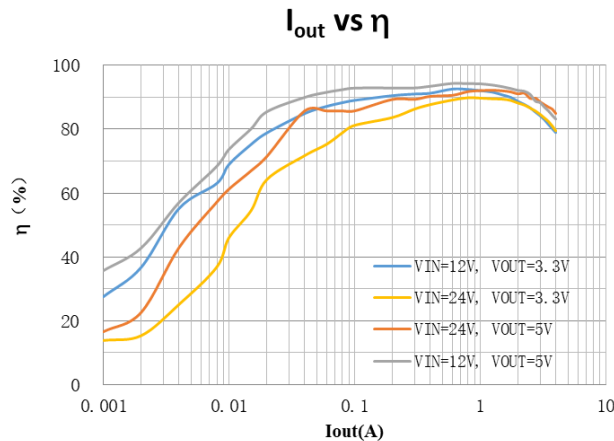
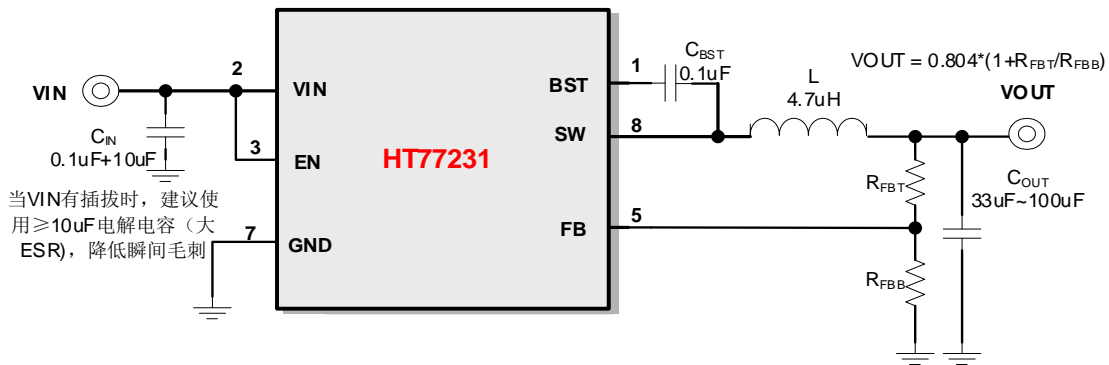
HT77231 是一款 3.5A 降压转换器，具有最少的外部元件和低关断电流。

该器件具有快速瞬态响应的特点，输出电容器采用低 ESR（聚合物）或超低 ESR（陶瓷），无需外部补偿。

该器件在轻载时以脉冲跳跃模式工作，达到高效。

HT77231 采用ESOP8, SOT23-6L 封装。

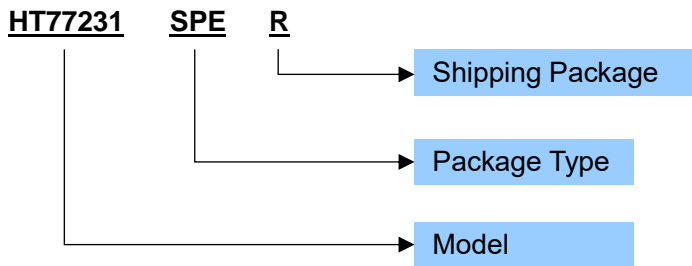
TYPICAL APPLICATION



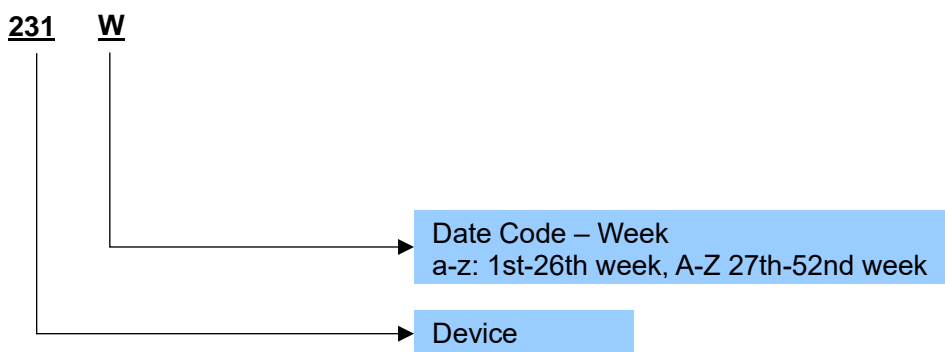
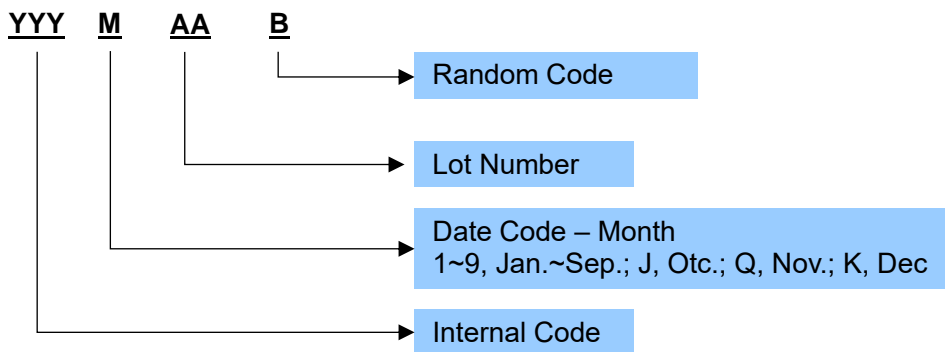
ORDERING INFORMATION

Part Number	Package Type	Marking	Operating Temperature Range	Shipping Package / MOQ
HT77231SPER	ESOP8 (SPE)	HT77231 YYYMAAB ¹	-40°C ~ 125°C	Tape and Reel / 2500
HT77231STNR	SOT23-6L (STN)	231W	-40°C ~ 125°C	Tape and reel / TBD

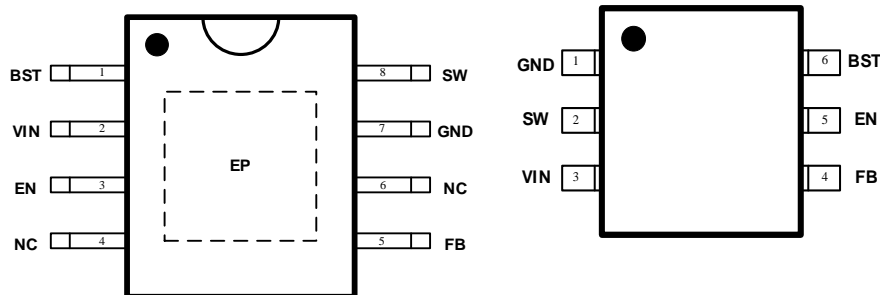
Part Number



Production Tracking Code



¹ YYYMAAB is production tracking code
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■ TERMINAL CONFIGURATION

ESOP8 Top View
SOT23-6L Top View
■ TERMINAL FUNCTION

Terminal No.		Name	Description
ESOP8	SOT23-6L		
1	6	BST	Bootstrap. Power supply for the high-side MOSFET driver. Connect a bypass capacitor between BST and SW. BST是内部高端MOSFET驱动器的正电源。在BST和SW之间连接一个旁路电容器。
2	3	VIN	Input supply. VIN supplies power to all of the internal control circuitries. A decoupling capacitor to ground must be placed close to VIN to minimize switching spikes. 输入电源。VIN为所有内部控制电路供电。接地滤波电容必须放置在VIN附近，以减少开关尖峰。
3	5	EN	Enable input, with internal pull-up current source. Pull EN below the specified threshold to shut down the device. Pull EN above the specified threshold to enable the device. Float to enable. 使能脚，内置上拉电流源。将EN拉到阈值以下以关闭。将EN拉至阈值以上启用。EN脚悬空启用使能。
4, 6	--	NC	No connection, connect to GND
5	4	FB	Feedback. Connect resistor divider to output voltage. 反馈。接分压电阻到输出电压。
7	1	GND	Ground. GND should be placed as close to the output capacitor as possible to avoid the high-current switch paths. 地。GND应尽可能靠近输出电容，以避免高电流开关路径。
8	2	SW	Switch node. 开关端口。
EP	--	-	Thermal pad, connect to GND for better thermal performance.

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