

18W内置升压单声道D类音频功放

18W Boosted Mono Class D Amplifier

■ FEATURES

- Spread spectrum technology
- Output Power
18W ($V_{BAT}=3.7V$, $R_L=4\Omega$, THD+N=10%, $f_{IN} = 1kHz$)
16W ($V_{BAT}=3.7V$, $R_L=4\Omega$, THD+N=1%, $f_{IN} = 1kHz$)
8W ($V_{BAT}=3.3V$, $R_L=8\Omega$, THD+N=1%, $f_{IN} = 1kHz$)
- Power Supply V_{BAT} : 3.0V~12V
- High Efficiency Boost Converter
 - Adjustable switch peak current limit to avoid over-pulling on battery current
- Over Current Protection, Thermal Protection, over voltage protection function included
- Pb-Free Packages, ESOP16
- 扩频技术
- 输出功率
18W ($V_{BAT}=3.7V$, $R_L=4\Omega$, THD+N=10%, $f_{IN} = 1kHz$)
16W ($V_{BAT}=3.7V$, $R_L=4\Omega$, THD+N=1%, $f_{IN} = 1kHz$)
8W ($V_{BAT}=3.3V$, $R_L=8\Omega$, THD+N=1%, $f_{IN} = 1kHz$)
- V_{BAT} 供电范围: 3.0V至12V
- 高效升压功能
 - 可调节最大限流值, 有效防止电池拉死
- 保护功能:过流/过热/过压保护功能
- 无铅封装, ESOP16

■ APPLICATIONS

- Bluetooth/Wi-Fi Speakers
- Portable Speakers
- 蓝牙/ Wi-Fi音箱
- 便携式音箱
- Smart speakers
- Smart Home
- 智能音箱
- 智能家居

■ DESCRIPTION

HT81297F, integrated with a boost converter, is a mono Class D audio amplifier that drives up to continuous 18W (10% THD+N, 1kHz) into 4ohm speaker from a Li-battery voltage. The output voltage of boost converter is forced into 9V or 12V and it provides to the class D amplifier. Configurable current limit is adopted to avoid accidental large peak current.

HT81297F integrates Spread Spectrum Control technology to achieve advanced EMI suppression. The Gain of HT81297F is 32dB.

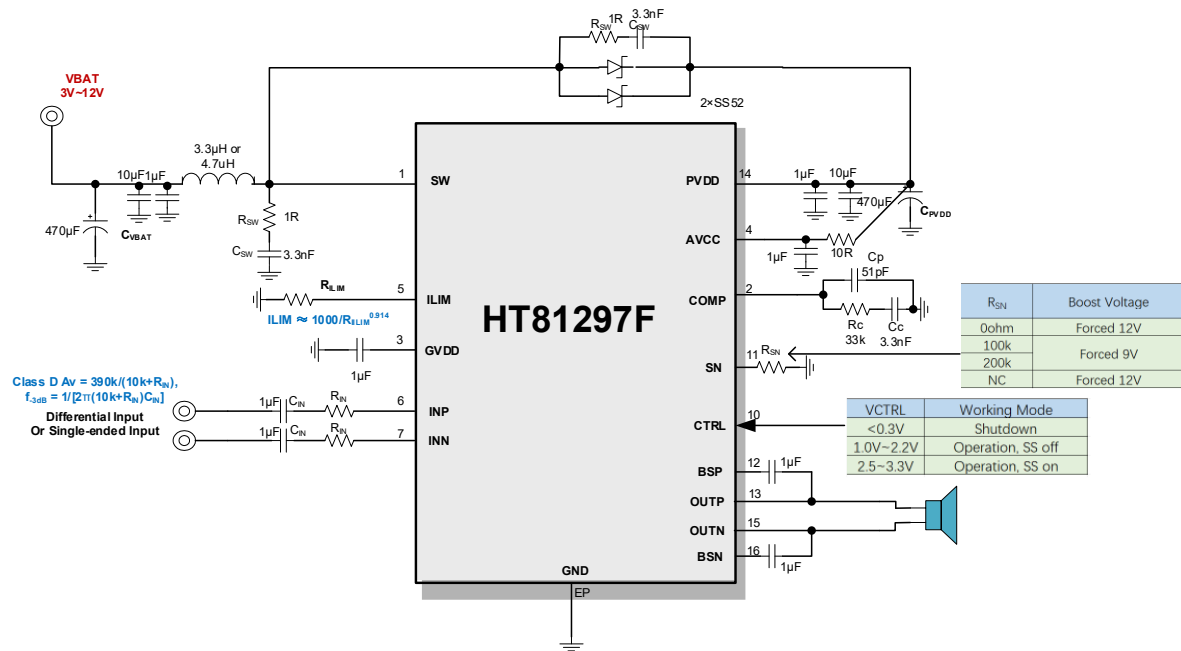
As for protection function, over current protection function for speaker output terminals, over temperature protection function and over voltage protection for boost converter output are also prepared.

HT81297F是一款内置升压的单声道D类音频功率放大器,由锂电池供电时, THD+N=10%,能连续输出18W功率(4Ω负载)。HT81297F则内置固定升压,提供一个固定9V或12V的升压给D类功放。HT81297F可配置升压限流值,以防止过大的电流尖峰。

HT81297F具有先进的扩频功能来抑制EMI。HT81297F的增益为32dB。

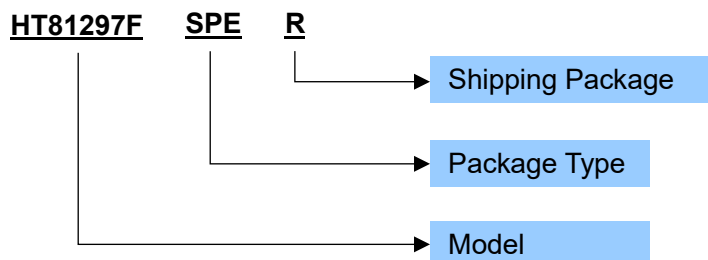
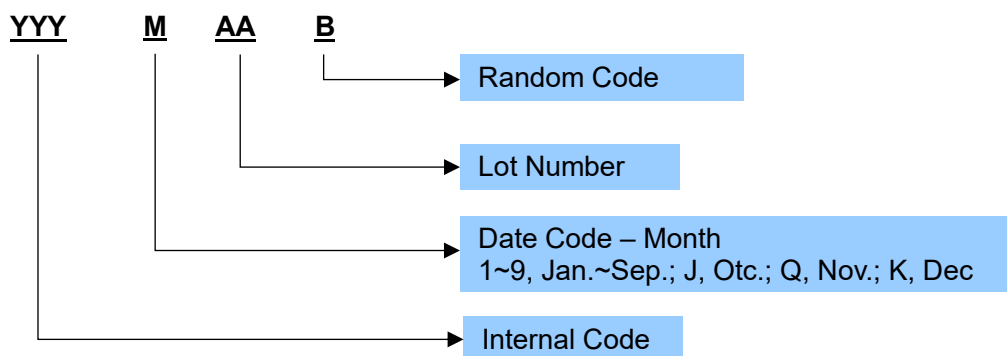
此外, HT81297F集成了输出端过流保护、片内过温保护、升压过压保护等功能。

TYPICAL APPLICATION

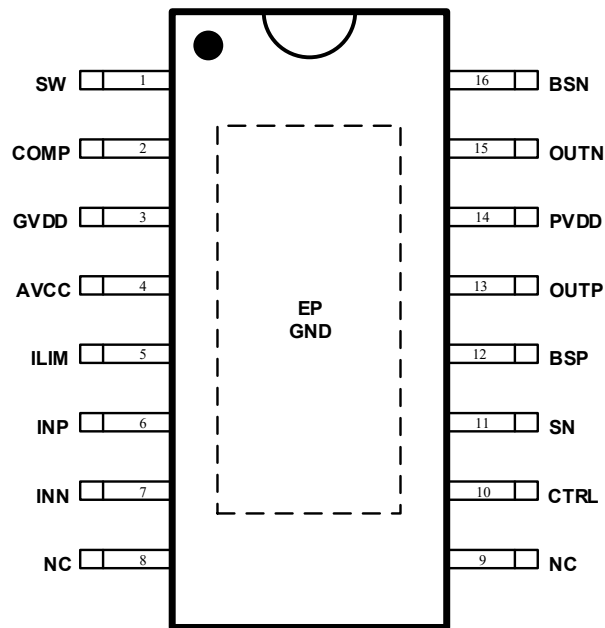


ORDERING INFORMATION

Part Number	Package Type	Marking	Operating Temperature Range	Shipping Package / MOQ
HT81297FSPER	ESOP16 (SPE)	HT81297F YYYMAAB ¹	-40℃~85℃	Tape and Reel (R) / 2500pcs

Part Number

Production Tracking Code


■ TERMINAL CONFIGURATION



HT81297F Top View

■ TERMINAL FUNCTION

Terminal No.	Name	I/O ¹	Description
1	SW	I	Boost and rectifying switch input. 升压整流开关输入端
2	COMP	O	Output of the internal error amplifier, the loop compensation network should be connected between this pin and the GND pin. 环路补偿脚, 接补偿电路到GND。
3	GVDD	O	Voltage regulator, connect 1uF to GND. 电压调节器, 接1uF到地。
4	AVCC	P	Analog power supply. 模拟供电
5	ILIM	I	Adjustable switch peak current limit. An external resistor should be connected between this pin and GND. 最大限流值设置端, 外部接电阻到地。
6	INP	I	Positive input (differential+) for audio amplifier. 功放输入正端
7	INN	I	Negative input (differential-) for audio amplifier. 功放输入负端
8, 9	NC	I	No connection. 内部无连接
10	CTRL	I	Mode Control Terminal. 模式控制脚
11	SN	I	Boost converter output voltage selection. 升压电压选择
12	BSP	BST	Connection point for the OUTP bootstrap capacitor, which is used to create a power supply for the high-side gate drive for OUTP. OUTP自举电容位
13	OUTP	O	Positive pin for differential speaker amplifier output. 输出正端
14	PVDD	P	Power Supply for internal power circuitry. 功率电源
15	OUTN	O	Negative pin for differential speaker amplifier. 输出负端
16	BSN	BST	Connection point for the OUTN bootstrap capacitor, which is used to create a power supply for the high-side gate drive for OUTN. OUTN自举电容位
EP	GND	G	Provides both electrical and thermal connection from the device to the board. A matching ground pad must be provided on the PCB and the device connected to it via solder. For proper electrical operation, this ground pad must be connected to the system ground. 既是地, 又是散热PAD

¹ I: Input; O: Output; G: Ground; P: Power; BST: BOOT Strap;

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