

# HT6871 产品简介

## *HT6871 Brief Introduction*

中文版 (2-3页)

*English Version (Page 4 - 6)*

## 3.4W低EMI防削顶单声道免滤波D类音频功率放大器

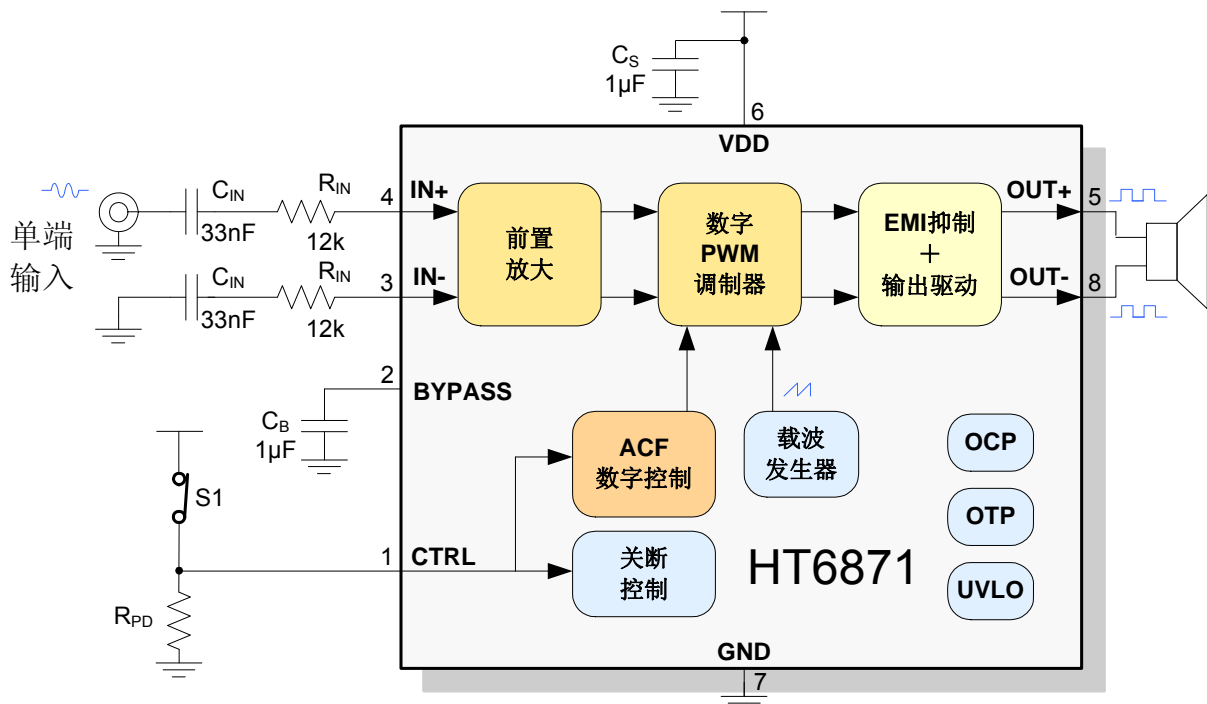
### ■ 特点

- 防削顶失真功能(Anti-Clipping Function, ACF)
- 优异的全带宽EMI抑制性能
- 免滤波器数字调制, 直接驱动扬声器
- 输出功率 (WLCSP-9)  
3.4 W ( $V_{DD}=5.0V, R_L=4\Omega, THD+N=10\%$ )
- 输出功率 (SOP-8)  
2.5 W ( $V_{DD}=5.0V, R_L=4\Omega, THD+N=10\%$ )
- 高效率  
91% ( $V_{DD}=5.0V, R_L=8\Omega, P_O=1W, WLCSP-9$ )  
88% ( $V_{DD}=3.6V, R_L=8\Omega, P_O=0.6W, WLCSP-9$ )  
89% ( $V_{DD}=5.0V, R_L=8\Omega, P_O=1W, SOP-8$ )
- 卓越的“咔嚓-噼噼”(Click-Pop)噪声抑制性能
- 高信噪比SNR: 95dB ( $V_{DD}=5V, A_v=18dB$ )
- 低关断电流: 0.01 $\mu A$
- 过流保护功能
- 过热保护功能
- 欠压异常保护功能
- 无铅封装, SOP-8和WLCSP-9

### ■ 应用

- 便携式音箱
- iphone/ipod/MP3 docking
- PMP/MP4/MP5播放器
- 便携式游戏机
- 掌上电脑PDAs
- USB音箱
- 数码相框
- 导航仪GPS
- 手机

### ■ 典型应用图



### ■ 概述

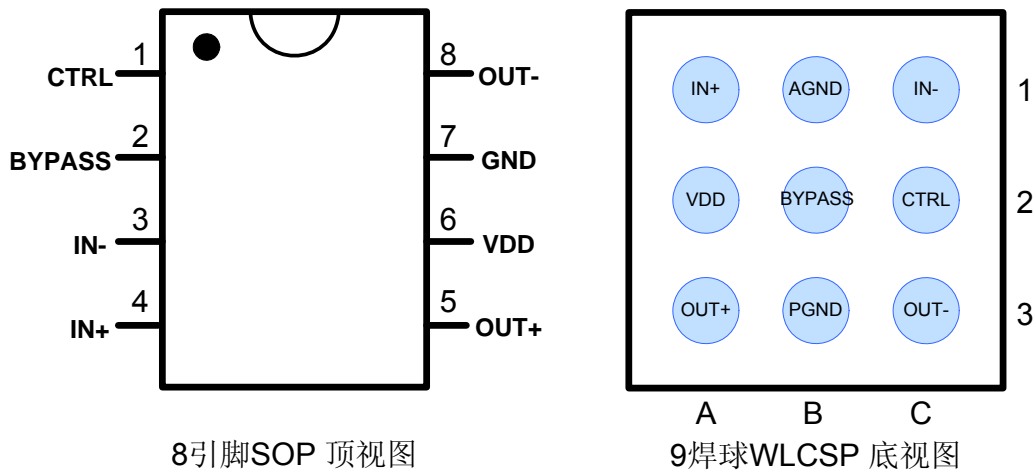
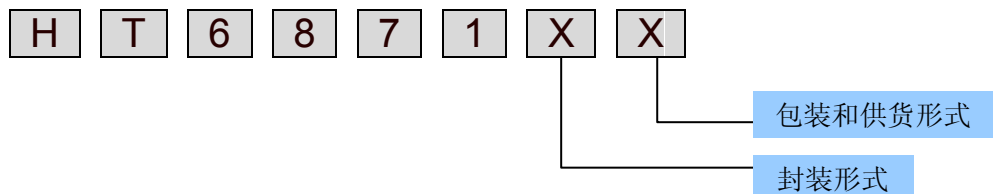
HT6871是一款低EMI的, 防削顶失真的, 单声道免滤波D类音频功率放大器。在5V电源, 10% THD+N, 4 $\Omega$ 负载条件下, 输出3.4W功率 (WLCSP-9封装), 在各类音频终端应用中维持高效率并提供AB类放大器的性能。

HT6871的最大特点是防削顶失真 (ACF) 输出控制功能, 可检测并抑制由于输入音乐、语音信号幅度过大所引起的输出信号削顶失真 (破音), 也能自适应地防止在电池应用中由电源电压下降所造成的输出削顶, 显著提高音质, 创造非常舒适的听音享受, 并保护扬声器免受过载损坏。针对不同应用需求, 防削顶具有ACF-1和ACF-2两种模式, 分别对应约3%和10%最大THD+N, 同时芯片具有ACF-Off 模式。

HT6871具有独有的电磁辐射 (EMI) 抑制技术和优异的全带宽低辐射性能, 辐射水平在不加任何辅助设计时仍远在FCC Part15 Class B 标准之下, 不仅避免了干扰其他敏感电路还降低了系统设计难度。

HT6871内部集成免滤波器数字调制技术, 能够直接驱动扬声器, 并最大程度减小脉冲输出信号的失真和噪音。输出无需滤波网络, 极少的外部元器件节省了系统空间和成本, 是便携式应用的理想选择。

此外, HT6871内置的关断功能使待机电流最小化, 还集成了输出端过流保护、片内过温保护和电源欠压异常保护等功能。

**引脚信息**

**订购信息**


产品型号	封装形式	顶面标记	工作温度范围	包装和供货形式
HT6871MR	SOP-8	HT6871 UVWXYZ <sup>*1</sup>	-40℃~85℃ (扩展工业级)	卷带装 2500片/盘
HT6871MT	SOP-8	HT6871 UVWXYZ <sup>*1</sup>	-40℃~85℃ (扩展工业级)	管装 100片/管
HT6871CR	WLCSP-9	6871 WXYZ <sup>*1</sup>	-40℃~85℃ (扩展工业级)	卷带装 3000片/盘

注1: WXYZ/UVWXYZ为内部生产跟踪随机编码。

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## 3.4W Low-EMI Anti-Clipping Filter-Less Mono Class D Audio Power Amplifier

### ■ FEATURES

- Anti-Clipping Function, ACF
- Excellent EMI Suppression Performance
- Filter-less Modulation, Eliminating Output Filter
- Output Power (WLCSP-9)  
3.4 W ( $V_{DD}=5.0V$ ,  $R_L=4\Omega$ , THD+N=10%)
- Output Power (SOP-8)  
2.5 W ( $V_{DD}=5.0V$ ,  $R_L=4\Omega$ , THD+N=10%)
- High Efficiency  
91% ( $V_{DD}=5.0V$ ,  $R_L=8\Omega$ ,  $P_O=1W$ , WLCSP-9)  
88% ( $V_{DD}=3.6V$ ,  $R_L=8\Omega$ ,  $P_O=0.6W$ , WLCSP-9)  
89% ( $V_{DD}=5.0V$ ,  $R_L=8\Omega$ ,  $P_O=1W$ , SOP-8)
- Excellent Click-Pop Noise Reduction Function
- High SNR: 95dB ( $V_{DD}=5V$ ,  $A_v=18dB$ )
- Low Shutdown Current: 0.01 $\mu$ A
- Over-Current Protection Function
- Thermal Protection Function
- Low Voltage Malfunction Prevention Function
- Pb-Free Packages, SOP-8 or WLCSP-9

### ■ APPLICATIONS

- Portable Speakers
- iPhone/iPod, MP3/4 docking
- PMP/MP4/MP5
- Digital Photo Frame
- PDAs
- USB Speakers
- PSP
- GPS
- Mobile Phones

### ■ GENERAL DESCRIPTION

HT6871 is a low-EMI, Anti-Clipping, filter-less, monaural Class D power amplifier with an output power of 3.4W (WLCSP-9 Packages). It has a high efficiency for various applications with Class AB amplifier performance.

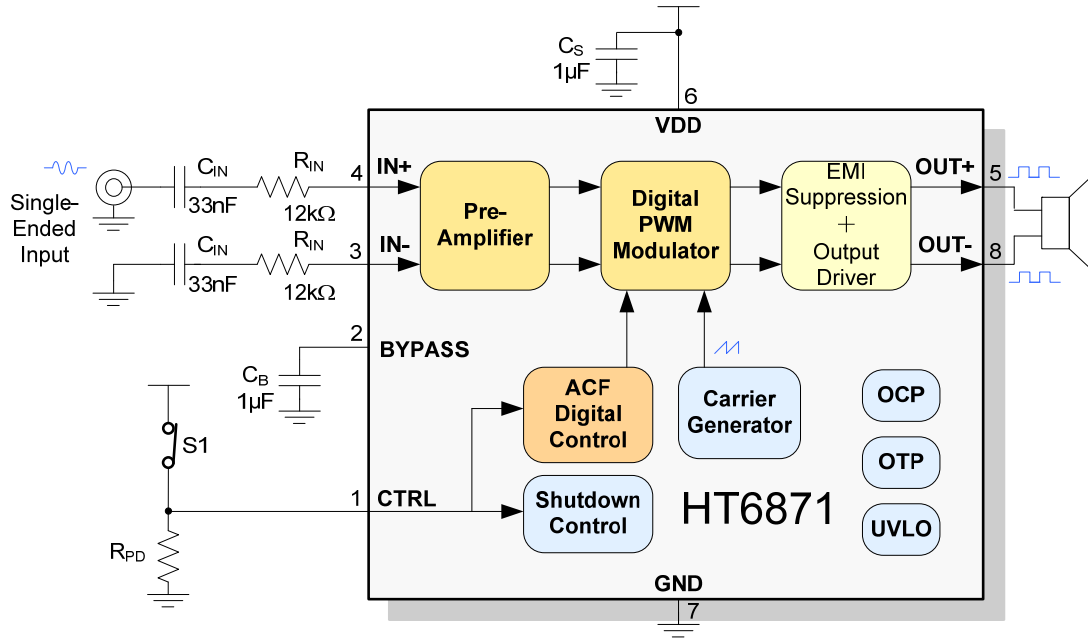
HT6871 features Anti-Clipping Function (ACF) which detects and suppresses output signal clippings due to the over level inputs. ACF function also can adapt the output clippings caused by power supply voltage down in battery applications. It improves acoustical quality considerably, gives great listening enjoyment, and prevents speaker from overload damaging. According to different application requirements, two modes of ACF-1 and ACF-2 could be selected to achieve a maximal THD+N of 3% and 10% respectively.

HT6871 has excellent EMI radiation suppression characteristics. The radiation level is well below FCC Part15 Class B standards without any additive design. It keeps from interference with other EMI sensitive circuits, simplifies system design and lowers system cost.

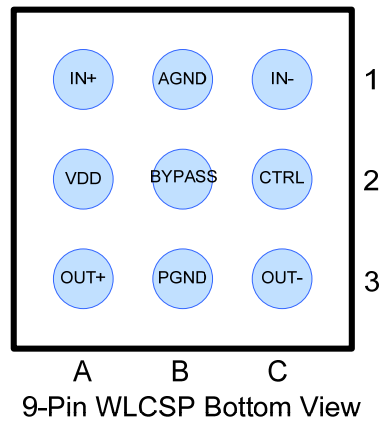
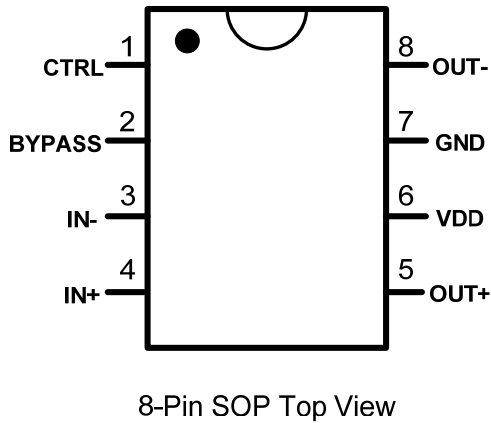
HT6871 has a filter-less modulation circuit which directly drives speakers, realizes highest standard low distortion and low noise characteristics among digital amplifier ICs for mobile use. Thanks to filter-less, circuit design with fewer external parts can be made in portable applications.

HT6871 has shutdown mode, over-current protection, over-temperature protection and low supply voltage malfunction preventing function.

**TYPICAL APPLICATION**



**TERMINAL CONFIGURATION**



**ORDERING INFORMATION**

H	T	6	8	7	1	X	X
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Shipping Package

Package Type

Part Number	Package Type	Marking	Operating Temperature Range	MOQ/Shipping Package
HT6871MR	SOP-8	HT6871 UVWXYZ <sup>*1</sup>	-40℃~85℃ (Extended Temp.)	Paper bags 2500PCS/Plate
HT6871MT	SOP-8	HT6871 UVWXYZ <sup>*1</sup>	-40℃~85℃ (Extended Temp.)	Tubes 100PCS/Tube
HT6871CR	WLCSP-9	6871 WXYZ <sup>*1</sup>	-40℃~85℃ (Extended Temp.)	Paper bags 3000PCS/Plate

 Note <sup>\*1</sup>: WXYZ/UVWXYZ is the production track code.

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