

## 免电感滤波25W AB/D类音频功放

### 25W Inductor Free Class AB/D Mono Amplifier

#### ■ FEATURES

- Output Power  
15W (VDD=12V, RL=4Ω, THD+N=1%, Class D)  
20W (VDD=14V, RL=4Ω, THD+N=1%, Class D)  
25W (VDD=14V, RL=4Ω, THD+N=10%, Class D)  
7.5W (VDD=7.4V, RL=4Ω, THD+N=10%, Class AB)  
17W (VDD=12V, RL=4Ω, THD+N=10%, Class AB)
- Single Wide Voltage Supply: 3V-19V
- Low Quiescent Current: 7mA (VDD = 12V, with LC and Load, Class D)
- Anti-clipping Function (ACF)
- Spread Switching Frequency, Inductor-free Operation
- Differential / Single-ended Analog Input
- Integrated Self-protection Circuits Including, Undervoltage, Overtemperature, and Overcurrent
- LF and HF Package of ESOP10
- 输出功率  
15W (VDD=12V, RL=4Ω, THD+N=1%, Class D)  
20W (VDD=14V, RL=4Ω, THD+N=1%, Class D)  
25W (VDD=14V, RL=4Ω, THD+N=10%, Class D)  
7.5W (VDD=7.4V, RL=4Ω, THD+N=10%, Class AB)  
17W (VDD=12V, RL=4Ω, THD+N=10%, Class AB)
- 单电源系统, 3V-19V宽电压输入范围
- 低静态电流: 7mA (VDD = 12V, 带LC 和负载, Class D)
- ACF防破音功能可选
- 扩频功能, 免电感滤波
- 模拟差分/单端输入
- 保护功能: 过流/过热/欠压异常和短路保护
- 无铅无卤封装, ESOP10

#### ■ APPLICATIONS

- Sound Bars
- Wireless Speakers
- Consumer Audio Applications
- TVs/Monitors
- 条形音箱
- 便携式音箱
- 拉杆音箱
- 无线智能音箱
- 消费类音频应用
- LCD电视/监视器

#### ■ DESCRIPTION

HT3163 is a mono efficient, Class AB/D audio amplifier. In class D mode, the device can drive a speaker up to 25W/4 Ω at VDD = 14V. In class AB mode, the device can drive a speaker up to 17W/4 Ω at VDD = 12V.

Advanced EMI Suppression enables the use of inexpensive ferrite bead filters while meeting EMC requirements for system cost reduction.

HT3163 is protected with Undervoltage, Overtemperature, and Overcurrent protection.

HT3163 features Anti-Clipping Function (ACF) which detects output signal clip due to the over input signal and suppresses the output signal clip automatically. Also, the ACF function can adapt the output clip caused by power supply voltage down with battery. It can significantly improve the sound quality, creating a very comfortable musical enjoyment, and to protect the speakers from overload damage.

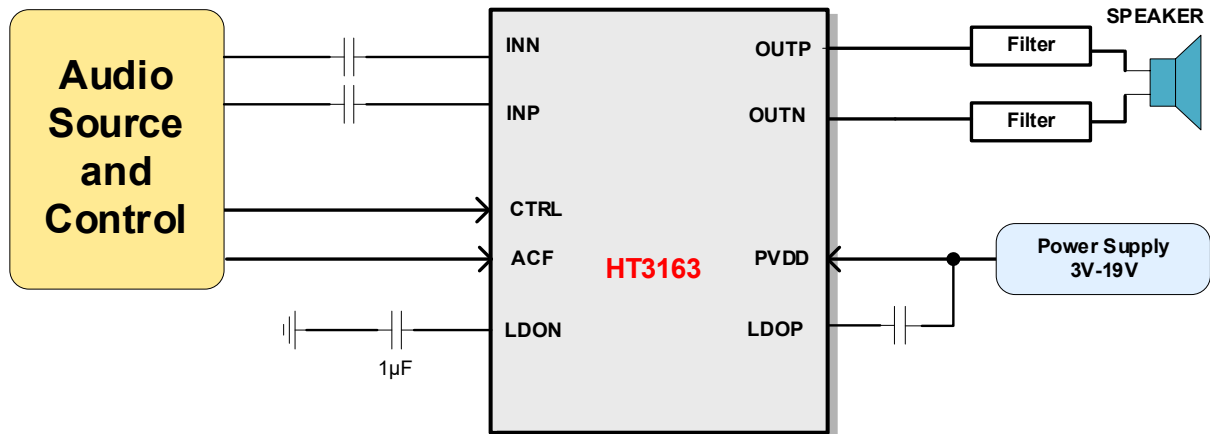
HT3163是一款高效AB/D类音频功率放大器。在D类模式, 14V供电、THD+N=10%条件下, 能够持续提供25W/4 Ω 功率输出。在AB类模式, 12V供电、THD+N=10%条件下, 能够持续输出17W/4 Ω 功率。

HT3163具有先进的扩频功能来抑制EMI, 使用价格低廉且小体积铁氧体磁珠可满足EMC要求。

此外, HT3163内置关断功能使待机电流最小化, 还集成了短路保护、热保护和电源欠压异常保护等功能。

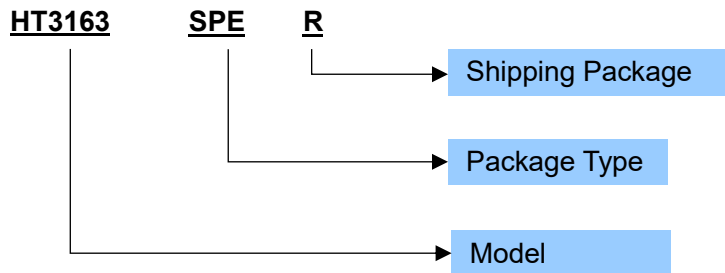
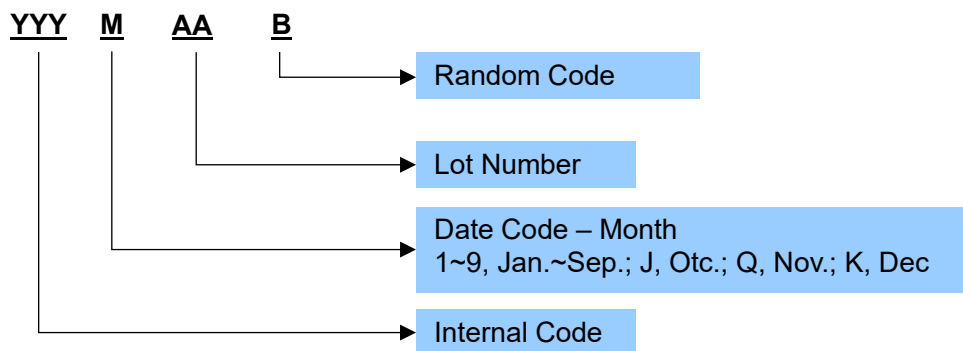
HT3163具有防削顶失真 (ACF) 输出控制功能, 可检测并抑制由于输入音乐、语音信号幅度过大所引起的输出信号削顶失真 (破音), 也能自适应地防止在电源电压下降所造成的输出削顶, 显著提高音质, 创造非常舒适的听音享受, 并保护扬声器免受过载损坏。

## ■ TYPICAL APPLICATION

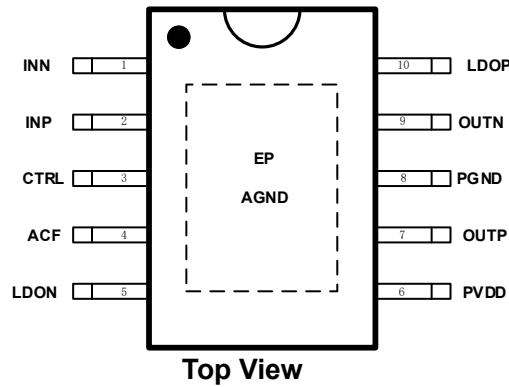


**ORDERING INFORMATION**

Part Number	Package Type	Marking	Operating Temperature Range	Shipping Package / MOQ
HT3163SPER	ESOP10 (SPE)	HT3163 YYYMAAB <sup>1</sup>	-40℃~85℃	Tape and Reel (R) / 2500pcs

**Part Number**

**Production Tracking Code**

<sup>1</sup> YYYMAAB is production tracking code

## ■ TERMINAL CONFIGURATION



## ■ TERMINAL FUNCTION

Terminal No.	Name	I/O <sup>1</sup>	Description
1	INN	I	Negative input terminal
2	INP	I	Positive input terminal
3	CTRL	I	Working mode selection terminal
4	ACF	O	ACF mode selection terminal
5	LDON	O	Internal LDO output, connect 1uF to GND
6	PVDD	P	Power Supply
7	OUTP	O	Positive pin for differential speaker amplifier output
8	PGND	G	Power Ground
9	OUTN	O	Negative pin for differential speaker amplifier output
10	LDOP	O	Internal LDO output, connect 1uF to PVDD
EP	AGND	G	Analog ground. 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

<sup>1</sup> I: Input; O: Output; G: Ground; P: Power;

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