

免电感滤波2×30W, 2×20W, 2×15W D类立体声音频功放

2×30W, 2×20W, 2×15W Inductor Free Class D Stereo Amplifier

■ FEATURES

- Output Power (BTL)
2×20W (VDD=14.5V, RL=4Ω, THD+N=1%, HT328A2, HT328A3)
2×33W (VDD=22V, RL=8Ω, THD+N=10%, HT328A3)
2×15W (VDD=15V, RL=4Ω, THD+N=0.1%, HT328A)
- Output Power (PBTL)
50W (VDD=22V, RL=4Ω, THD+N=1%, HT328A3)
16W (VDD=15V, RL=4Ω, THD+N=0.1%, HT328A)
- Single Wide Voltage Supply: 4.5V-22V (HT328A3), 4.5V~18V (HT328A2), 4.5V~16V (HT328A)
- Selectable Work Mode: BD or 1SPW (HT328A3); BD or Hybrid (HT328A, HT328A2)
- Spread Spectrum Function
- Efficiency > 90%
- Differential / Single-ended Analog Input, BTL or PBTL (only for HT328A, HT328A3) Output
- Selectable Gain: 32dB or 17.6dB
- Integrated Self-protection Circuits Including Overvoltage, Undervoltage, Overtemperature, DC-detect, and Overcurrent with Error Reporting
- LF and HF Package of ETSSOP28

- 输出功率 (BTL模式)
2×20W (VDD=14.5V, RL=4Ω, THD+N=1%, HT328A2, HT328A3)
2×33W (VDD=22V, RL=8Ω, THD+N=10%, HT328A3)
2×15W (VDD=15V, RL=4Ω, THD+N=0.1%, HT328A)
- 输出功率 (PBTL模式)
50W (VDD=22V, RL=4Ω, THD+N=1%, HT328A3)
16W (VDD=15V, RL=4Ω, THD+N=0.1%, HT328A)
- 单电源系统, 4.5V-22V(HT328A3), 4.5V~18V (HT328A2), 4.5V~16V (HT328A)宽电压输入范围
- 超过90%效率, 无需散热器
- 可选输出模式: BD和1SPW(HT328A3); BD 和 Hybrid (HT328A, HT328A2)
- 扩频功能, 免电感滤波
- 模拟差分/单端输入, 输出模式立体声/单声道可选
- 可选增益: 32dB/17.6dB
- 保护功能: 过压/过流/过热/欠压异常, 直流检测和短路保护
- 无铅无卤封装, ETSSOP28

■ APPLICATIONS

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

■ DESCRIPTION

HT328 family is a stereo efficient, Class-D audio amplifier. HT328A3 can drive speakers up to 50W/4 Ω in mono PBTL. It can also deliver 2×33W/8 Ω power in stereo BTL. HT328A2 can deliver 2×20W/4 Ω power in stereo BTL. HT328A can drive speakers up to 16W/4 Ω in mono PBTL. It can also deliver 2×15W/4 Ω power in stereo BTL. Advanced EMI Suppression with Spread Spectrum Control enables the use of inexpensive ferrite bead filters while meeting EMC requirements for system cost reduction.

HT328 family is fully protected against faults with Overvoltage, Undervoltage, Overtemperature, DC-detect, and Overcurrent protection. Faults can be reported to the processor to prevent devices from being damaged.

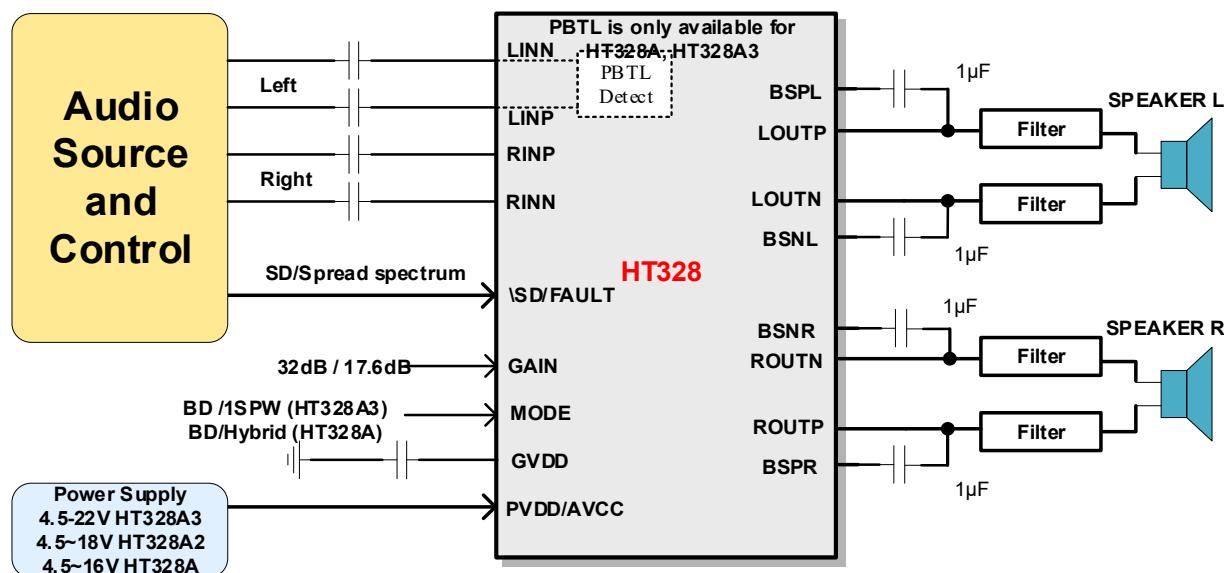
HT328系列是一款高效D类音频功率放大器。

HT328A3在22V供电的立体声(BTL)模式、THD+N=10%条件下,能够持续提供2×33W/8 Ω 功率输出;在单声道(PBTL)模式、THD+N=1%条件下,能够持续提供50W/4 Ω 功率输出。HT328A2则在BTL下可输出2×20W/4 Ω 功率。HT328A在PBTL下可输出16W/4 Ω 功率,在BTL下可输出2×15W/4 Ω 功率。

HT328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,HT328内置关断功能使待机电流最小化,还集成了过压保护、直流保护、短路保护、热保护和电源欠压异常保护等功能,可全面防止出现故障。

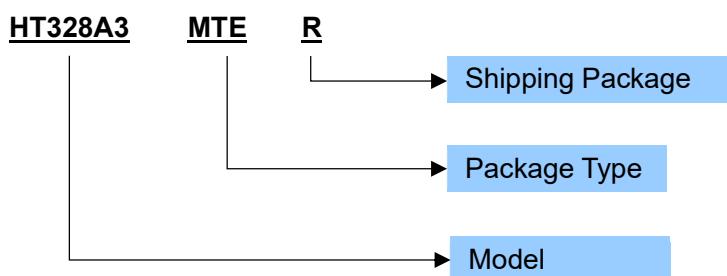
■ TYPICAL APPLICATION



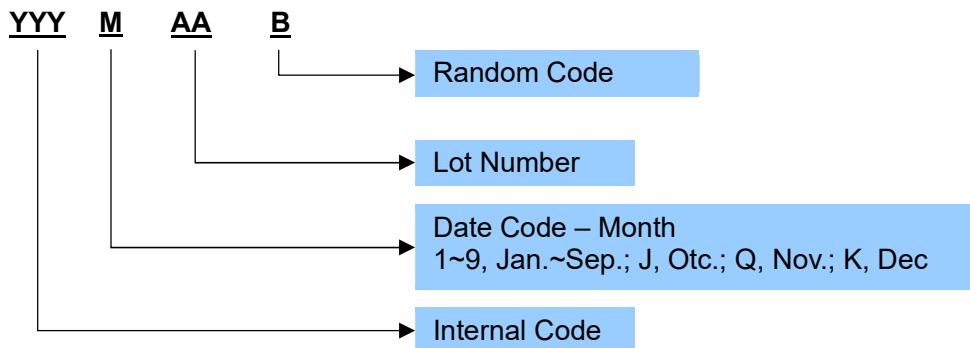
■ ORDERING INFORMATION

Part Number	Package Type	Package Abbr.	Eco Plan	MSL Level	Marking	Shipping Package / MOQ
HT328A3MTER	ETSSOP28	MTE	RoHS	MSL3	HT328 _{MTE} YYYMAAB ¹	Tape and Reel (R) / 3000pcs
HT328A2MTER	ETSSOP28	MTE	RoHS	MSL3	HT328 _{MTE} YYYMAAB	Tape and Reel (R) / 3000pcs
HT328AMTER	ETSSOP28	MTE	RoHS	MSL3	HT328 _{MTE} YYYMAAB	Tape and Reel (R) / 3000pcs

Part Number

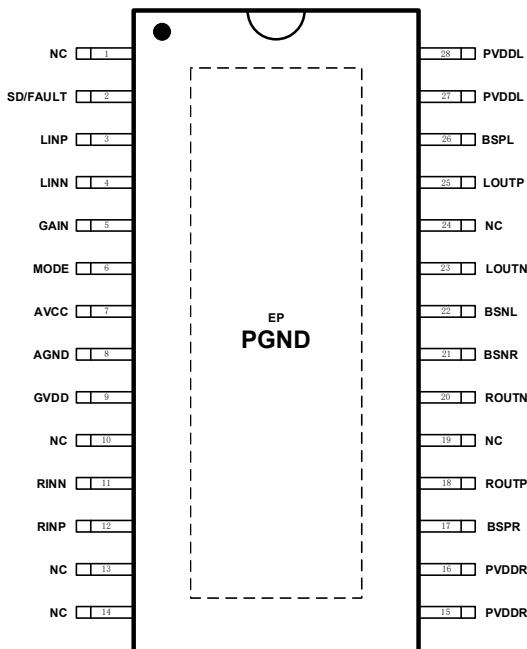


Production Tracking Code



¹ YYYMAAB is production tracking code

■ TERMINAL CONFIGURATION



HT328 Top View

■ TERMINAL FUNCTION

Terminal No.	Name	I/O ¹	Description
2	\SD/FAULT	I	SD/FAULT, multi-function pin. When pulled down, place the speaker amplifier in shutdown mode. General fault reporting including Over-Temp, Over-Current, DC Detect.
3	LINP	I	Positive input terminal for L channel
4	LINN	I	Negative input terminal for L channel
5	GAIN	I	Gain select pin. Low = 17.6dB gain; High = 32dB
6	MODE	I	Mode select pin. Low = BD; High = Low-Idle-Current 1SPW
7	AVCC	P	Analog power supply.
8	AGND	G	Analog signal GND. Connect to PGND.
9	GVDD	O	Voltage regulator derived from AVDD supply, connect 1uF to GND
11	RINN	I	Negative input terminal for R channel
12	RINP	I	Positive input terminal for R channel
15/16	PVDDR	P	Power Supply for amplifier drivers of R channel
17	BSPR	BST	Connection point for the ROUTP bootstrap capacitor, which is used to create a power supply for the high-side gate drive for ROUTP
18	ROUTP	O	Positive pin for differential speaker amplifier output R
20	ROUTN	O	Negative pin for differential speaker amplifier output R
21	BSNR	BST	Connection point for the ROUTN bootstrap capacitor, which is used to create a power supply for the high-side gate drive for ROUTN
22	BSNL	BST	Connection point for the LOUTN bootstrap capacitor, which is used to create a power supply for the high-side gate drive for LOUTN
23	LOUTN	O	Negative pin for differential speaker amplifier output L
25	LOUTP	O	Positive pin for differential speaker amplifier output L
26	BSPL	BST	Connection point for the LOUTP bootstrap capacitor, which is used to create a power supply for the high-side gate drive for LOUTP
27/28	PVDDL	P	Power Supply for amplifier drivers of L channel
1/10/13/ 14/19/24	NC	-	NC, Connect to Ground for better thermal performance
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

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

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