

2.8W I²S 输入单声道D类音频功率放大器

2.8W I²S Input Mono Class D Audio Amplifier

■ FEATURES

- Power Supply
 - PVDD: 2.5-6.5V;
 - DVDD/AVDD: 3.3V
 - Flexible Audio I/O
 - I2S, LJ, RJ, TDM input
 - 8, 16, 32, 44.1, 48, 88.2, 96, 192kHz Sample Rates
 - Output Power
 - 1.40W (PV_{DD}=3.6V, R_L=4Ω, THD+N=10%)
 - 2.80W (PV_{DD}=5.0V, R_L=4Ω, THD+N=10%)
 - 4.70W (PV_{DD}=6.5V, R_L=4Ω, THD+N=10%)
 - THD+N= 0.08% (P_O=1W, R_L=4Ω, PV_{DD} = 3.7V)
 - Adjustable Gain
 - Clock Error, Over Current, Undervoltage, and Overtemperature Protection
 - Pb-free Packages, QFN4 × 4-20L
- 电源供电:
 - PVDD 2.5-6.5V;
 - DVDD/AVDD 3.3V
 - 灵活的音频输入:
 - I2S, LJ, RJ, TDM 输入
 - 8, 16, 32, 44.1, 48, 88.2, 96, 192kHz 采样频率
 - 输出功率:
 - 1.40W (PV_{DD}=3.6V, R_L=4Ω, THD+N=10%)
 - 2.80W (PV_{DD}=5.0V, R_L=4Ω, THD+N=10%)
 - 4.70W (PV_{DD}=6.5V, R_L=4Ω, THD+N=10%)
 - THD+N= 0.08% (P_O=1W, R_L=4Ω, PV_{DD} = 3.7V)
 - 增益可调
 - 保护: 时钟错误、过流、欠压、过温保护等
 - QFN4×4-20L封装

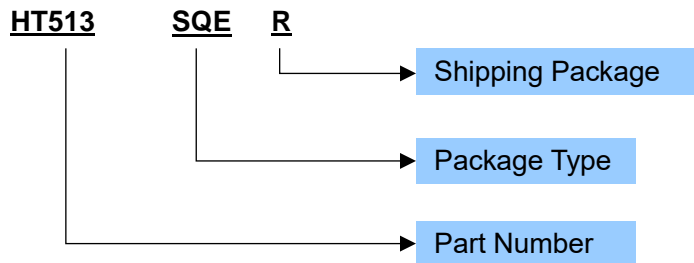
■ APPLICATIONS

- Smart Home
- Smart Toys
- IoT Devices
- Gaming Devices
- Smart Speakers
- Other Li-ion cell/5V Devices
- 智能家居
- 智能玩具
- IoT设备
- 游戏设备
- 智能音箱
- 其他锂电/5V设备

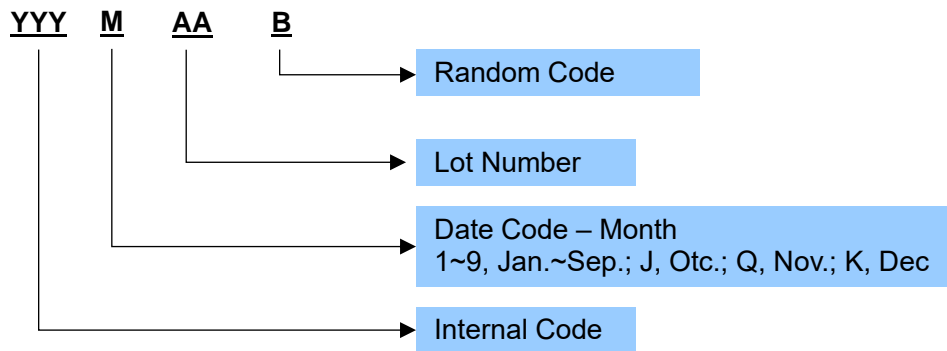
ORDERING INFORMATION

Part Number	Package Type	Marking	Operating Temperature Range	MOQ/Shipping Package
HT513SQER	QFN4×4-20L	HT513 YYYMAAB ¹	-40℃~85℃	Advance book only

Ordering Number



Production Tracking Code



¹ YYYMAAB is production tracking code

DESCRIPTION

The HT513 is an easy-to-use, low-cost, I²S input mono Class D audio amplifier that drives up to continuous 2.8W into 4ohm speaker with 5V power supply, and 4.7W into 4ohm speaker with 6.5V power supply.

HT513 integrates an DA converter, the I²S interface supports up to 32bit width, 192kHz sample rate.

The built-in Class D amplifier also integrates Anti-clipping Function (ACF). The gain of the amplifier is also adjustable using external resistors.

The Device is available in QFN4×4-20L package.

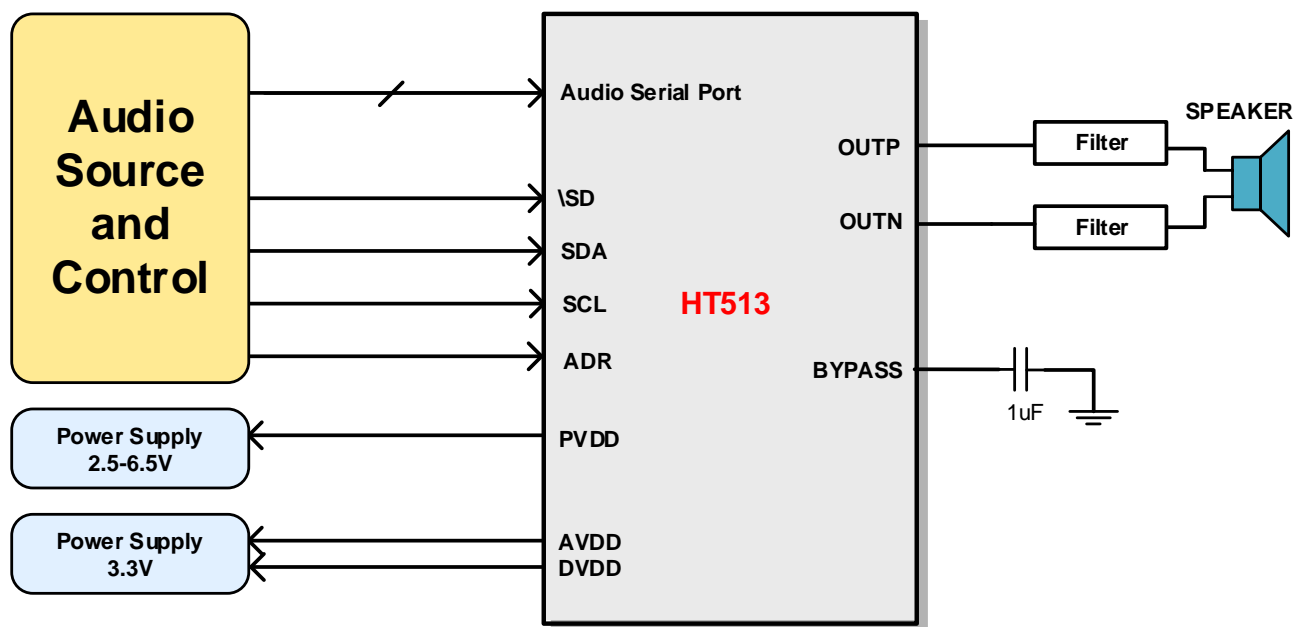
HT513是一款低成本的I²S输入单声道输出D类音频功率放大器。其在5V供电时可提供最大2.8W的输出功率；在6.5V供电时可提供最大4.7W的输出功率。

HT513内部集成了DA转换器，其I²S输入最大支持32-bit字节，并且可自动监测采样频率，最高支持192kHz。

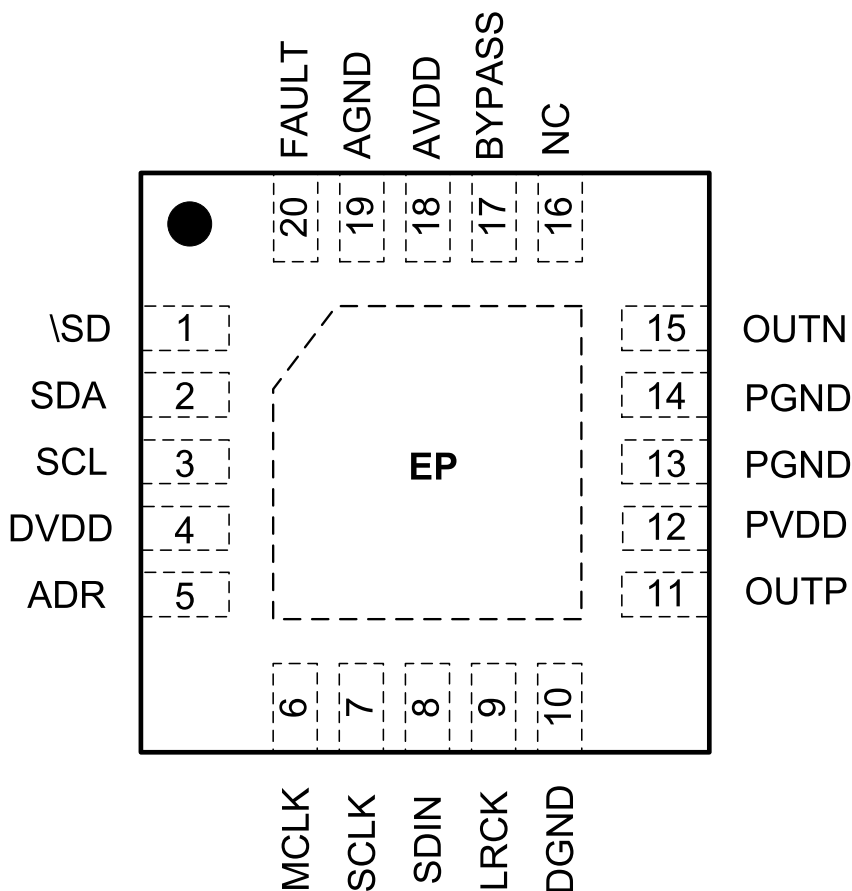
HT513集成的D类音频功放还具有增益可调、防破音等功能。

该产品提供QFN4×4-20L封装。

TYPICAL APPLICATION



■ TERMINAL CONFIGURATION



Top View

■ TERMINAL FUNCTION

Terminal No.	Name	I/O ¹	Description
1	\SD	I	Places the speaker amplifier in shutdown mode while pulled low level. 接地时功放关闭
2	SDA	I	I ² C data input pin. I2C 数据
3	SCL	I	I ² C clock input terminal. I2C 时钟
4	DVDD	P	Power supply for the internal digital circuitry. 数字电源端
5	ADR	I	Determine the I ² C Address of the device. I2C 器件地址选择
6	MCLK	I	Master Clock used for internal clock tree, sub-circuit/state machine, and Serial Audio Port clocking. 主时钟
7	SCLK	I	Bit clock for the digital signal that is active on the serial data port's input data line. 串行时钟
8	SDIN	I	Data line to the serial data port. 串行数据
9	LRCK	I	Word select clock for the digital signal that is active on the serial port's input data line. 帧时钟, 字段 (声道) 选择
10	DGND	G	Ground for digital circuitry (NOTE: This pin should be connected to the system ground). 数字地
11	OUTP	O	Positive pin for differential speaker amplifier. 功放输出正端
12	PVDD	P	Power Supply for internal power circuitry. 功率电源
13, 14	PGND	G	Ground for power device circuitry. 功率地
15	OUTN	O	Negative pin for differential speaker amplifier. 功放输出负端

¹ I: Input; O: Output; G: Ground; P: Power

16	NC	-	No Connection. Connect to GND for thermal dissipation. 无连接, 可接地, 增加散热
17	BYPASS	O	Analog reference terminal for Class D Amp. D 类功放模拟参考电压。
18	AVDD	P	Power supply for internal analog circuitry. 模拟电源端
19	AGND	G	Ground for analog circuitry (NOTE: This pin should be connected to the system ground). 模拟地
20	FAULT	O	Speaker amplifier fault terminal, which is pulled LOW when an internal fault occurs, open-drain output. 错误状态位, 芯片发生某些错误时, 该引脚拉低
EP	-	-	No connection, provides thermal connection from the device to the board. 内部无连接, 为器件散热通道。

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