

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: 3.0-3.6V
 - I²S Interface
 - Data width: 16, 20, 24bit;
 - Sample rate: 8-96kHz
 - 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= 0.04% (P_O=1W, R_L=4Ω, PV_{DD} = 3.7V)
 - Adjustable Gain
 - Thermal protection / Low voltage malfunction prevention / Over current protection function
 - Pb-free Packages, TSSOP20, QFN20
- 电源供电: PVDD 2.5-6.5V; DVDD 3.0-3.6V
 - I²S输入: 最大支持24-bit字节; 可自动检测采样频率, 最高192kHz
 - 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= 0.04% (P_O=1W, R_L=4Ω, PV_{DD} = 3.7V)
 - 增益可调
 - 欠压保护、过温保护、过流保护
 - TSSOP20, QFN20封装

■ APPLICATIONS

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

■ ORDERING INFORMATION

Part Number	Package Type	Marking	Operating Temperature Range	MOQ/Shipping Package
HT511MTNB	TSSOP20	HT511MTN UVWXYZ ¹	-40°C~85°C	Only samples available yet
/	QFN20	/	-40°C~85°C	Samples not available yet

¹ UVWXYZ is production tracking code

DESCRIPTION

The HT511 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.

HT511 integrates an DA converter, the I²S interface supports up to 24bit width, 192kHz sample rate. built-in Class G boost converter supports adjustable boost voltages. The boost converter is automatically active only when a higher audio output power is required, which will significantly improve the efficiency and extends the playing time in battery supply applications.

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 TSSOP20 and QFN20 package.

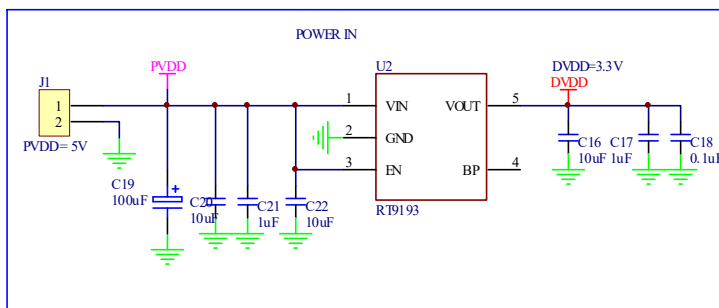
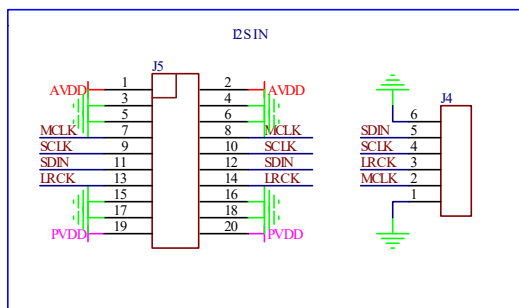
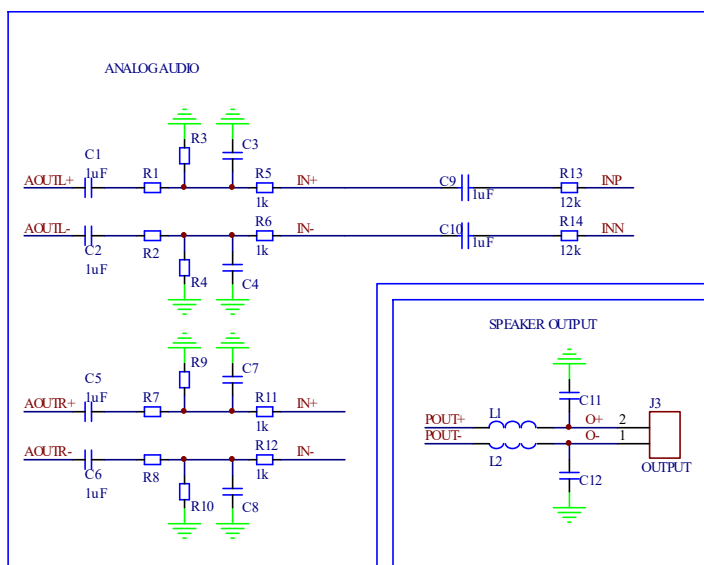
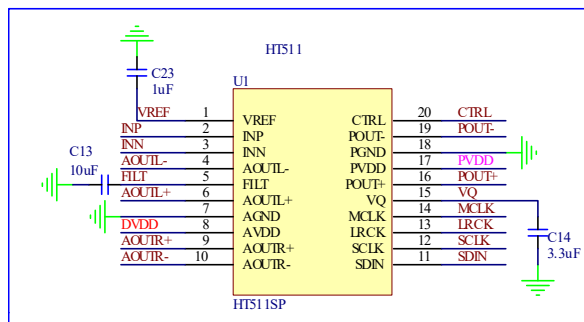
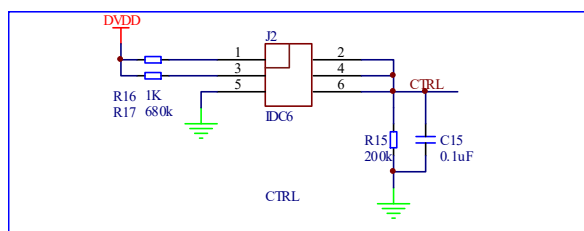
HT511是一款低成本的I²S输入单声道输出D类音频功率放大器。其在5V供电时可提供最大2.8W的输出功率；在6.5V供电时可提供最大4.7W的输出功率

HT511内部集成了DA转换器，其I²S输入最大支持24-bit字节，并且可自动监测采样频率，最高支持192kHz。

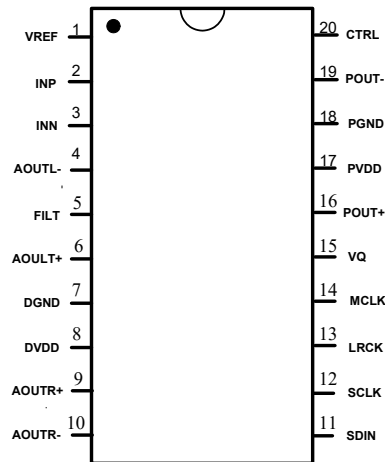
HT511集成的D类音频功放还具有增益可调、防破音等功能。

该产品提供TSSOP20, QFN20封装。

TYPICAL APPLICATION



■ TERMINAL CONFIGURATION



HT511 TSSOP20 Top View

■ TERMINAL FUNCTION

Terminal No.	Name	I/O ¹	Description
1	VREF	O	Analog reference terminal for Class D Amp. D 类功放模拟参考电压。
2	INP	I	Positive input terminal of Class D Amp. D 类功放的正向输入端。
3	INN	I	Negative input terminal of Class D Amp. D 类功放的反向输入端。
4	AOURL-	I	Negative analog output of DAC left channel. DAC 左声道反向模拟输出端。
5	FILT	O	Reference voltage for DAC internal sampling. DAC 采样参考电压。
6	AOURL+	O	Positive analog output of DAC left channel. DAC 左声道正向模拟输出端。
7	DGND	G	DAC ground. DAC 地。
8	DVDD	P	Power supply for DAC. DAC 电源端。
9	AOURL+	O	Positive analog output of DAC right channel. DAC 右声道正向模拟输出端。
10	AOURL-	O	Negative analog output of DAC right channel. DAC 右声道反向模拟输出端。
11	SDIN	I	Serial audio data input. I ² S 串行数据输入端。
12	SCLK	I	Serial bit clock input. I ² S 串行时钟输入端。
13	LRCK	I	Left right clock input. 左右声道时钟输入端。
14	MCLK	I	Master clock input. 主时钟输入端。
15	VQ	O	Filter connection for DAC internal quiescent voltage. DAC 内部静态电压。
16	POURL+	O	Positive output terminal for Class D Amp. D 类功放正向输出端。
17	PVDD	P	Power supply for Class D Amp. D 类功放电源端。
18	PGND	G	Ground for Class D Amp. 左声道负端输出。
19	POURL-	O	Negative output terminal for Class D Amp. D 类功放反向输出端。
20	CTRL	I	Shutdown and ACF control terminal for Class D Amp. D 类功放的模式控制端。

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

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