

2×10.9W Class D Audio Amplifier with Flexible Limiter

■ FEATURES

- Flexible Limiter Function adjusted by outside resistor so that the output music is limited under a preset THD+N and power
- Integrated Thermal Foldback (TFB) Function Significantly increase the peak audio power
- Paralleled Bridge Tied Load (PBTL)
- Both Class D and Class AB is available
- THD+N: 0.02% ($V_{DD} = 8.4V$, $R_L = 4\Omega$, $f_{IN} = 1kHz$, $P_o = 2 \times 1.0W$, BTL)
- Output Power ($f_{IN} = 1kHz$, THD+N = 10%)
 $2 \times 10.9W$ ($V_{DD} = 9.0V$, $R_L = 4\Omega$, BTL)
 $18W$ ($V_{DD} = 8.4V$, $R_L = 2\Omega$, PBTL)
- Power Supply V_{DD} : 2.5V~9.8V
- Multiple Gain Available: 21dB, 25.5dB, 30dB
- Filter-less Modulation
- Thermal/Low voltage malfunction prevention function with auto recovery
- Pb-free Packages, TSSOP20L-PP

■ APPLICATIONS

- Bluetooth/Smart Speakers
- Portable Speakers
- 2.1Channel Speakers
- Megaphone
- Portable Gamers
- MP4, GPS
- LCD TV/Monitor
- Tablet PC/Note Book

■ DESCRIPTION

HT876 is a stereo Class D and Class AB audio amplifier, which can deliver 2×10.9W (4Ω Load, BTL mode) power at the condition of $V_{DD} = 9.0V$, THD+N = 10%, 1kHz sine wave in Class D mode.

HT876 integrates adjustable Limiter Function, which can be set by a resistor at the LIM pin to ground or AVDD, so that the output music can be limited below the preset power and THD+N.

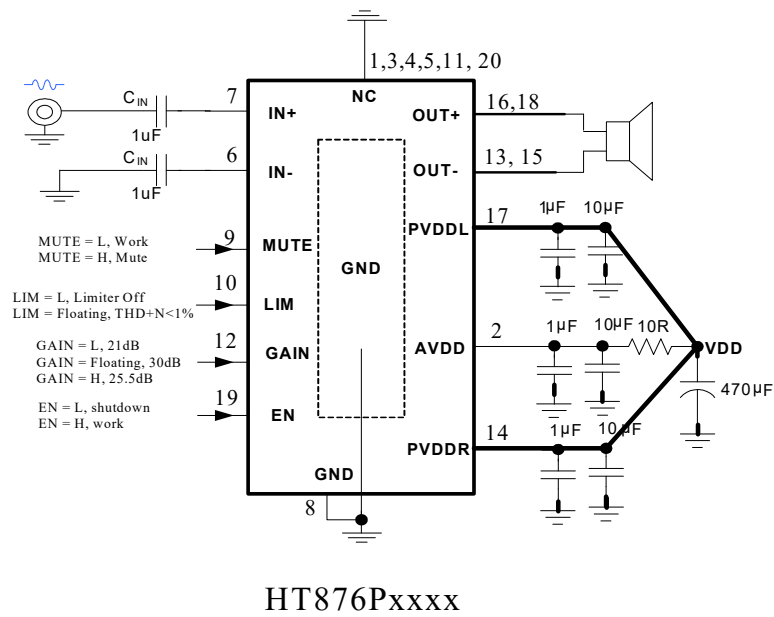
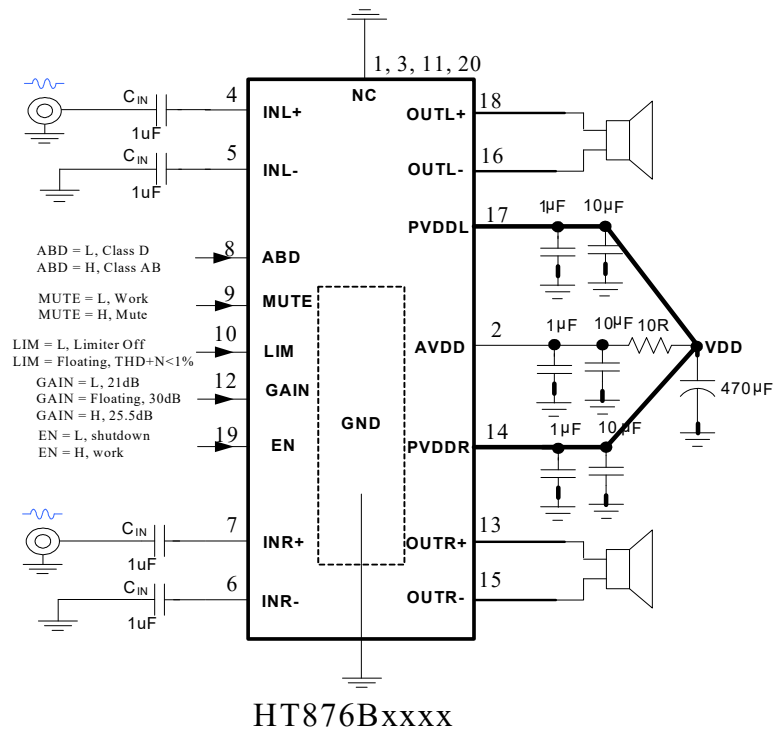
The HT876 Thermal Foldback (TFB) is designed to protect the HT876 from excessive die temperature in case of the device being operated beyond the recommended temperature or power limit (more easily happened in Class AB mode), or with a weaker thermal system than recommended. The TFB works by reducing the on-die power dissipation by reducing Gain if the temperature trig point is exceeded, so that the peak audio power is significantly increased.

HT876 has a filter-less modulation circuit which can directly drive speakers. HT876 can be shut down so that the power consumption can be minimized. As for protection function, over temperature protection function and low supply voltage malfunction preventing function are also prepared.

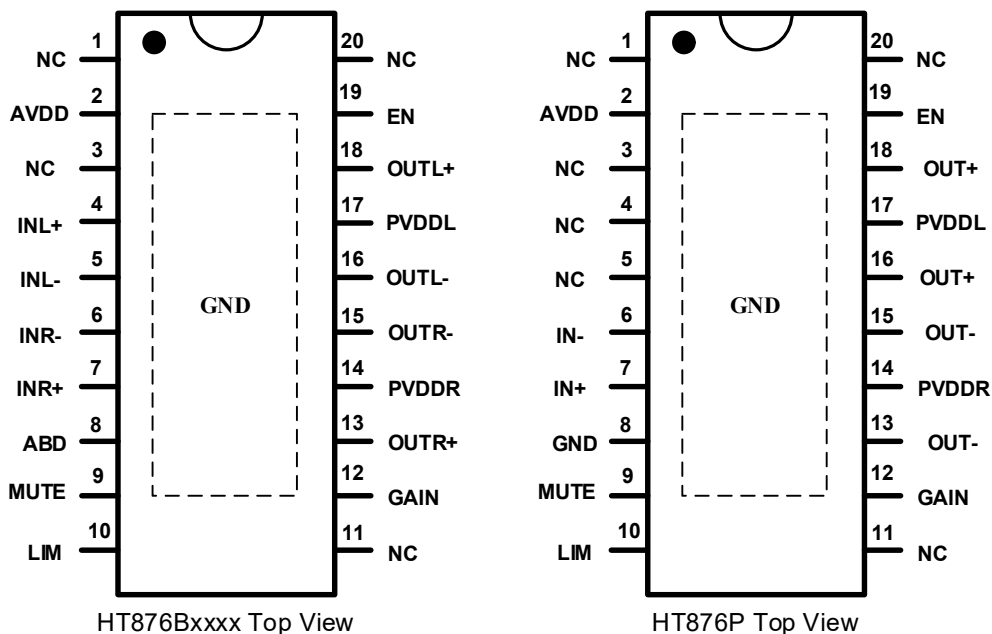
■ ORDERING INFORMATION

Part Number	Output Stage	Package Type	Marking	Operating Temperature Range	MOQ/Shipping Package
HT876BMTET	BTL	TSSOP20L-PP	HT876MTE	-40°C~85°C	Tube / 46PCS
HT876PMTET	PBTL	TSSOP20L-PP	HT876MTE	-40°C~85°C	Tube / 46PCS

TYPICAL APPLICATION



■ TERMINAL CONFIGURATION



■ TERMINAL FUNCTION¹

HT876B Terminal No.	PIN NAME	I/O	Description
1, 3, 11, 20	NC	/	No connection inside the device, connect to GND for better thermal performance
2	AVDD	P	Analog power supply terminal
4	INL+	I	Positive input terminal (differential+) for left channel
5	INL-	I	Negative input terminal (differential-) for left channel
6	INR-	I	Negative input terminal (differential-) for right channel
7	INR+	I	Positive input terminal (differential+) for right channel
8	ABD	I	Class AB and Class D switch terminal; configure the device to operate in Class AB mode when it is pulled high, and Class D mode when it is pulled low
9	MUTE	I	Mute control terminal; configure the device to operate in mute mode when it is pulled high
10	LIM	I	Limiter function terminal; disable the function when it is pulled low
12	GAIN	O	Gain selection terminal
13	OUTR+	O	Positive output terminal (BTL+) for right channel
14	PVDDR	O	Power supply terminal for right channel
15	OUTR-	O	Negative output terminal (BTL-) for right channel
16	OUTL-	O	Negative output terminal (BTL-) for left channel
17	PVDDL	P	Power supply terminal for left channel
18	OUTL+	O	Positive output terminal (BTL+) for left channel
19	EN	I	Enable terminal; the device goes into shutdown mode when it is pulled low
PAD	GND	G	Power ground

¹ I: input, O: output, P: power, G: ground

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