

9.5W Anti-Clipping Stereo Class D Audio Amplifier

FEATURE

- Anti-Clipping Function (ACF)
- Filter-less Modulation, Eliminating Output Filter
- Output Power
 $2 \times 9.5W @ \text{Class D}$, $2 \times 9.0W @ \text{Class AB}$
 $(V_{DD}=8.5V, R_L=4\Omega, \text{THD+N}=10\%,)$
 $2 \times 6.7W @ \text{Class D or Class AB}$
 $(V_{DD}=7.2V, R_L=4\Omega, \text{THD+N}=10\%)$
- Over Current Protection, Thermal Protection, Low voltage malfunction prevention function included
- Pb-Free Packages, SOP16L-PP(HT8696), TSSOP20L-PP(HT8697)

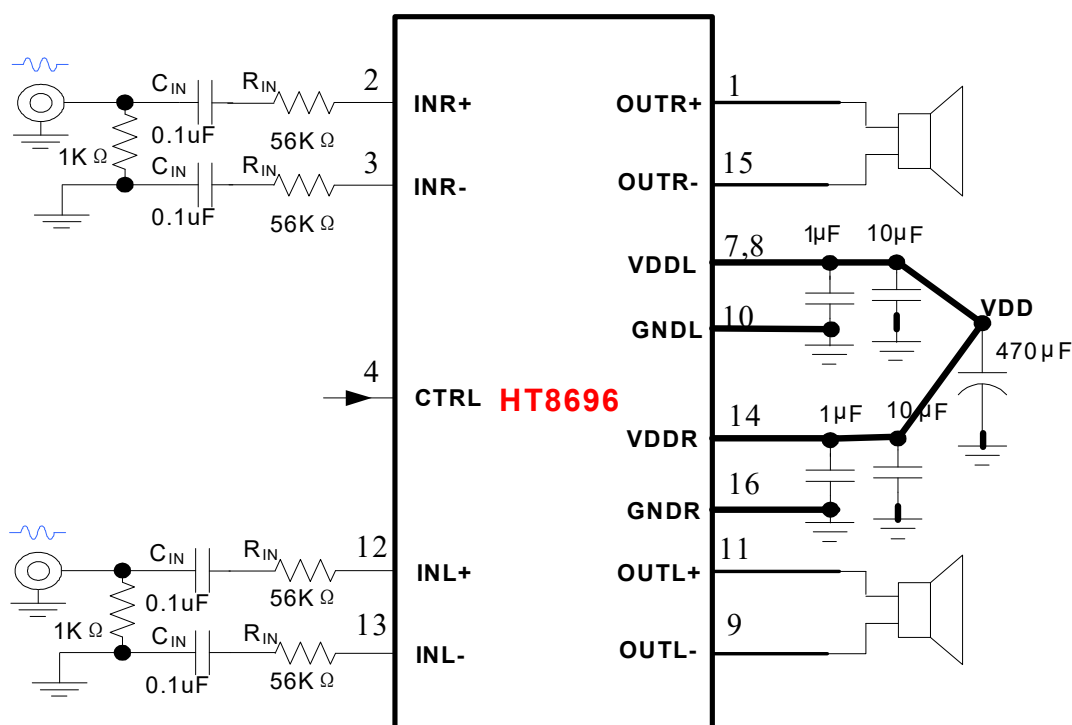
APPLICATIONS

- Bluetooth Speakers
- Portable Speakers
- 2.1 Channel Speakers
- Megaphone
- iPhone/iPod/iPod docking
- LCD TV/Monitor
- Tablet PC/Note Book
- Portable Gamers
- Outdoor Speakers
- MP4/GPS

GENERAL DESCRIPTION

HT8696,7 is a filter-less stereo Class D audio power amplifier IC with maximum output power of $2 \times 9.5W$ at $V_{DD} = 8.5V$, $\text{THD+N} = 10\%$, $R_L = 4\Omega$. HT8697 can also work in Class AB mode with maximum instantaneous output power of $2 \times 9.0W$ at $V_{DD} = 8.5V$, $\text{THD+N} = 10\%$, $R_L = 4\Omega$.

TYPICAL APPLICATION

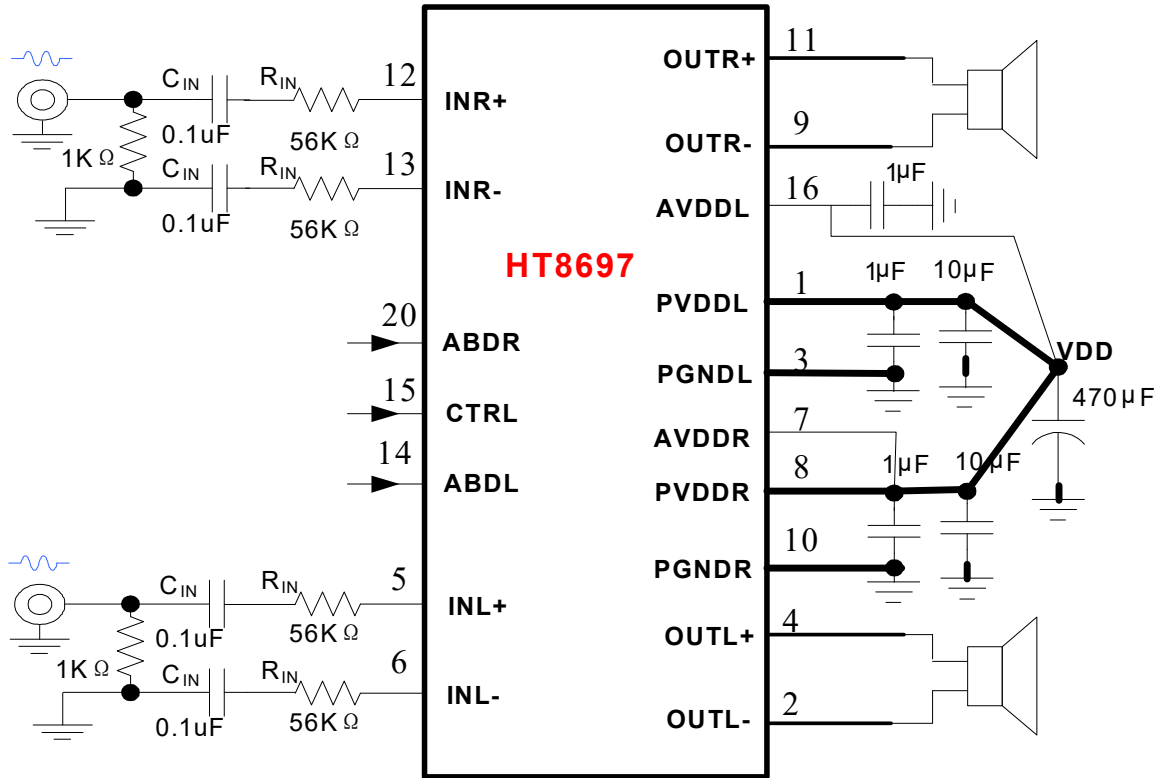


HT8696,7 features Anti-Clipping Function (ACF) which detects output signal clip due to the over input signal and suppresses the output signal clip automatically. Also the ACF function can adapt the output clip caused by power supply voltage down with battery. It can significantly improve the sound quality, creating a very comfortable musical enjoyment, and to protect the speakers from overload damage. It also supplies ACF OFF mode.

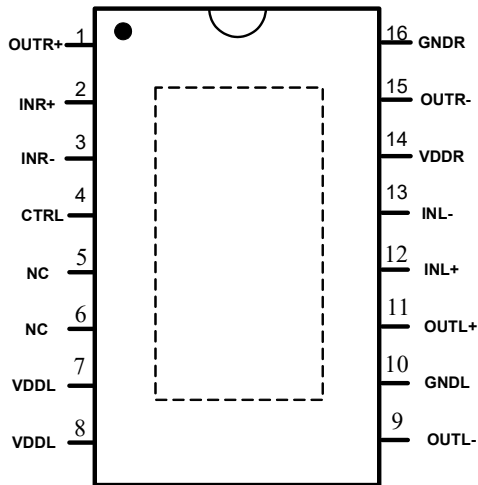
HT8696,7 has a filter-less modulation circuit which directly drives speakers while realizing low distortion and low noise characteristics. Thanks to filter-less, circuit design with fewer external parts can be made in portable applications.

HT8697 are free to change modes between Class AB and Class D. While in Class AB mode, EMI is not concerned as a problem as Class D mode.

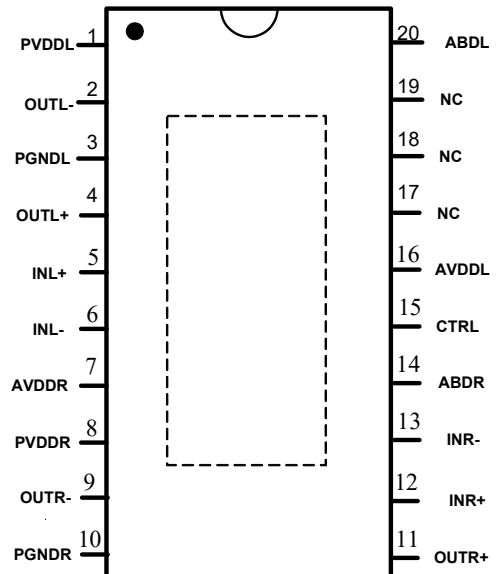
HT8696,7 has the independent Shutdown function which can minimize the power consumption at standby function. As for protection function, over current protection function for speaker output terminals, over temperature protection function, and low supply voltage malfunction preventing function are also prepared.



■ TERMINAL CONFIGURATION



HT8696 Top View



HT8697 Bottom View

■ TERMINAL FUNCTION *1

HT8696 Terminal No.	Name	I/O	Function
1	OUTR+	O	Right channel positive output terminal (BTL+)
2	INR+	A	Right channel positive input terminal (differential +)
3	INR-	A	Right channel negative input terminal (differential -)
4	CTRL	I	Shutdown and ACF control terminal
5,6	NC		No connection
7,8	VDDL	Power	Power supply for Left Channel
9	OUTL-	O	Left channel negative output terminal (BTL-)
10	GNDL	Ground	Ground for Left channel
11	OUTL+	O	Left channel positive output (BTL+)
12	INL+	A	Left channel positive input terminal (differential +)
13	INL-	A	Left channel negative input terminal (differential -)
14	VDDR	Power	Power supply for Right Channel
15	OUTR-	O	Right channel negative output terminal (BTL-)
16	GNDR	Ground	Ground for Right channel

HT8697 Terminal No.	Name	I/O	Function
1	PVDDL	Power	Power supply for Left Channel
2	OUTL-	O	Left channel negative output terminal (BTL-)
3	PGNDL	Ground	Power and analog ground for Left channel
4	OUTL+	O	Left channel positive output (BTL+)
5	INL+	A	Left channel positive input terminal (differential +)
6	INL-	A	Left channel negative input terminal (differential -)
7	AVDDR	Power	Analog power supply for Right Channel
8	PVDDR	Power	Power supply for Right Channel
9	OUTR-	O	Right channel negative output terminal (BTL-)
10	PGNDR	Ground	Power and analog ground for Right channel
11	OUTR+	O	Right channel positive output terminal (BTL+)
12	INR+	A	Right channel positive input terminal (differential +)
13	INR-	A	Right channel negative input terminal (differential -)
14	ABDR	I	Class AB and Class D switch terminal
15	CTRL	I	Shutdown and ACF control terminal
16	AVDDL	Power	Analog power supply for Left Channel

*1 I: Input terminal O: Output terminal A: Analog terminal

■ ORDERING INFORMATION

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Package type

Part Number	Package Type	Marking	Operating Temperature Range	MOQ/Shipping Package
HT8696SP	SOP16L-PP	HT8696SP UVWXYZ *2	-40°C ~ 85°C	Tape 50 PCS
HT8697MTE	TSSOP20L-PP	HT8697MTE UVWXYZ *2	-40°C ~ 85°C	Tape 46 PCS

*2: "WXYZ/UVWXYZ" is production track code.

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