

# 6.5W Anti-Clipping Mono Class D Audio Amplifier with Boost Converter

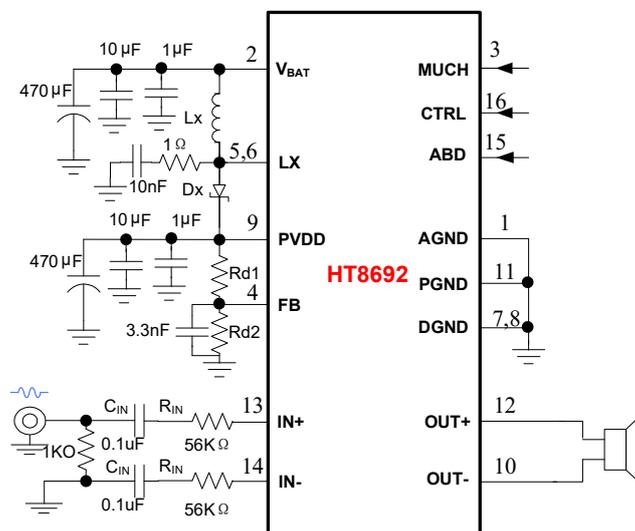
## FEATURE

- Anti-Clipping Function (ACF)
- Filter-less Modulation, Eliminating Output Filter
- Output Power
  - 6.5 W ( $V_{BAT}=4.2V$ ,  $PVDD = 7.0V$ ,  $R_L=4\Omega$ ,  $THD+N=10\%$ )
  - 8.0 W ( $V_{BAT}=4.2V$ ,  $PVDD = 7.0V$ ,  $R_L=3\Omega$ ,  $THD+N=10\%$ )
  - 3.5 W ( $V_{BAT}=4.2V$ ,  $PVDD = 7.0V$ ,  $R_L=8\Omega$ ,  $THD+N=10\%$ )
- Power Supply
  - Boost Input  $V_{BAT}$ : 2.5V to 5.5V
  - Boost Output  $PVDD$ :  $V_{BAT}$  to 7.0V
- Adjustable BOOST Output Voltage
- Class AB / Class D
- Over Current Protection, Thermal Protection, Low voltage malfunction prevention function included
- Pb-Free Packages , SOP16L-PP

## APPLICATIONS

- |                            |                     |
|----------------------------|---------------------|
| · Bluetooth Speakers       | · Portable Speakers |
| · 2.1 Channel Speakers     | · Megaphone         |
| · iphone/ipod/ipod docking | · MP4/GPS           |
| · Tablet PC/Note Book      | · Smart Phones      |
| · LCD TV/Monitor           | · Portable Gamers   |

## TYPICAL APPLICATION



## GENERAL DESCRIPTION

HT8692 integrates a boost converter with a filter-less stereo class D audio power amplifier to provide 6.5W continuous power into a into a 4Ω speaker when operating from a Li-battery voltage boosted to 7.0V. Meanwhile, the boost output voltage is adjustable

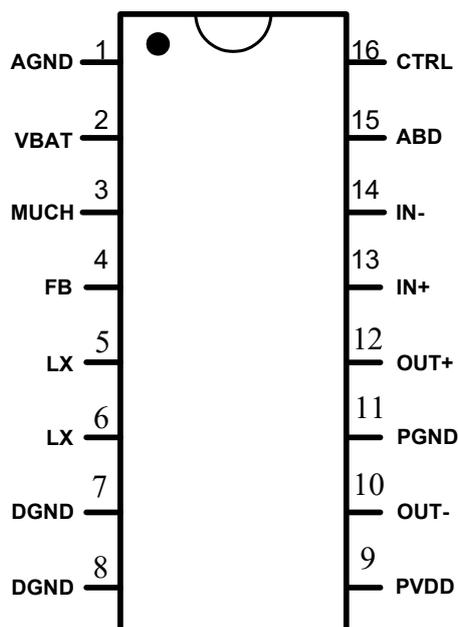
HT8692 features Anti-Clipping Function (ACF) which detects output signal clip due to the over input signal and suppresses the output signal clip automatically. Also the ACF function can adapt the output clip caused by power supply voltage down with battery. It can significantly improves the sound quality, creating a very comfortable musical enjoyment, and to protect the speakers from overload damage. It also supplies ACF OFF mode.

Class AB amplifier mode is also available for HT8692. Once the EMI Interference from class D and Boost Converter becomes an annoying problem, HT8692 can be changed into Class AB mode.

HT8692 has a filter-less modulation circuit which directly drives speakers while realizes low distortion and low noise characteristics. Thanks to filter-less, circuit design with fewer external parts can be made in portable applications.

HT8692 has the independent Shutdown function which can minimize the power consumption at standby and MUTE 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**



SOP16L-PP Top View

**■ TERMINAL FUNCTION \*1**

SOP Terminal No.	Name	I/O	ESD Protection	Function
1	AGND	GND	PN	Analog Ground
2	V <sub>BAT</sub>	Power	PN	Power Supply
3	MUCH	I	PN	Mute Control Terminal
4	FB	I	PN	Regulator Feedback Input
5,6	LX	I	-	Internal Switch Input
7,8	DGND	GND	-	Power Ground for Boost converter
9	PVDD	Power	-	Boost Converter Output Voltage
10	OUT-	O	-	Negative Output Terminal (BTL-)
11	PGND	GND	-	Power Ground for Class D
12	OUT+	O	-	Positive Output (BTL+)
13	IN+	I	PN	Positive Input Terminal (differential +)
14	IN-	I	PN	Negative Input Terminal (differential -)
15	ABD	I	PN	Class D or Class AB Amplifier Mode Control Terminal
16	CTRL	I	PN	Shutdown and ACF Control Terminal

\*1 I: Input O:Output

**ORDERING INFORMATION**

H	T	8	6	9	2	XX
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Package type

Part Number	Package Type	Marking	Operating Temperature Range	MOQ/Shipping Package
HT8692SP	SOP16L-PP	HT8692 <sup>SP</sup> UVWXYZ <sup>*2</sup>	-40°C ~ 85°C	Tape 50PCS

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

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