

11W Anti-Clipping Mono Class D/AB Audio Amplifier with Boost Converter

FEATURE

- Anti-Clipping Function (ACF)
- Filter-less Modulation, Eliminating Output Filter
- Output Power
 - 9.0W ($V_{BAT}=3.7V$, $PVDD = 7.5V$, $R_L=3\Omega$, $THD+N=10\%$)
 - 11.0W ($V_{BAT}=3.7V$, $PVDD = 7.5V$, $R_L=2\Omega$, $THD+N=10\%$)
 - 5.5W ($V_{BAT}=3.7V$, $PVDD = 6.5V$, $R_L=4\Omega$, $THD+N=10\%$)
- Power Supply
 - Boost Input V_{BAT} : 2.5V to 5.5V
 - Boost Output $PVDD$: V_{BAT} to 7.5V
- Adjustable BOOST Output Voltage
- Class AB / Class D
- Over Current Protection, Thermal Protection, Low voltage malfunction prevention function included
- Pb-Free Packages , SOP8L-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 |

GENERAL DESCRIPTION

HT8691R integrates a boost converter with a filter-less stereo class D audio power amplifier to provide 11W continuous power into a 2Ω speaker when operating from a Li-battery voltage boosted to 7.5V. Meanwhile, the boost output voltage is adjustable.

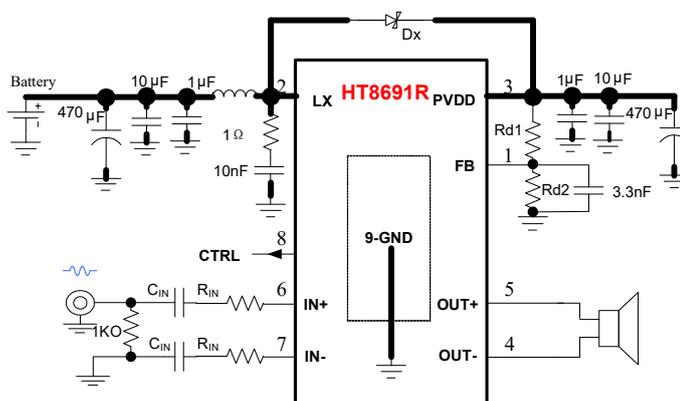
HT8691R features Anti-Clipping Function (ACF) which detects output signal clip due to the over input signal and suppresses the output signal clip automatically. Also, the ACF function can adapt the output clip caused by power supply voltage down with battery. It can significantly improve the sound quality, creating a very comfortable musical enjoyment, and to protect the speakers from overload damage. It also supplies ACF OFF mode.

Class AB amplifier mode is also available for HT8691R. Once the EMI Interference from class D and Boost Converter becomes an annoying problem, HT8691R can be changed into Class AB mode.

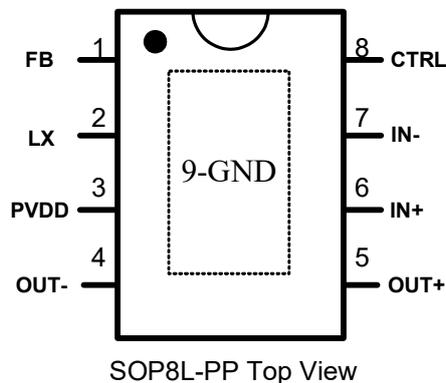
HT8691R has a filter-less modulation circuit which directly drives speakers while realizes low distortion and low noise characteristics. Thanks to filter-less, circuit design with fewer external parts can be made in portable applications.

HT8691R 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.

TYPICAL APPLICATION



■ TERMINAL CONFIGURATION



■ TERMINAL FUNCTION ¹

SOP Terminal No.	Name	I/O	ESD Protection	Function
1	FB	I	PN	Regulator Feedback Input
2	LX	I	-	Internal Switch Input
3	PVDD	Power	PN	Boost Converter Output Voltage and Power Supply
4	OUT-	O	-	Negative Output Terminal (BTL-)
5	OUT+	O	-	Positive Output (BTL+)
6	IN+	I	PN	Positive Input Terminal (differential +)
7	IN-	I	PN	Negative Input Terminal (differential -)
8	CTRL	I	PN	Mode Control Terminal
9	GND ²	GND	PN	Power Ground

■ ORDERING INFORMATION

Part Number	Package Type	Marking	Operating Temperature Range	MOQ/Shipping Package
HT8691RSPET	SOP8L-PP	HT8691RSP	-40°C~85°C	100PCS / Tube
HT8691RSPER	SOP8L-PP	HT8691RSP	-40°C~85°C	2500PCS / Tape and Reel

¹ I: Input O: Output

² Do make sure that the GND pin is grounded into the Ground plane connecting into the power ground.

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