

2.6W/CH Stereo Filter-less Class-D Audio Amplifier

Features

- Supply voltage range: 3.0 V to 5.5 V
- 10mA static operation current
- <1uA shutdown current
- 64 step DC volume control from -75 to +24dB
- Overload and thermal protection
- Loudspeaker Output power @ 10% THD+N
 - 1.6W/CH into 8Ω loudspeaker
 - 2.6W/CH into 4Ω loudspeaker

Applications

- Monitor audio
- Portable multimedia devices
- Mobile phone

Description

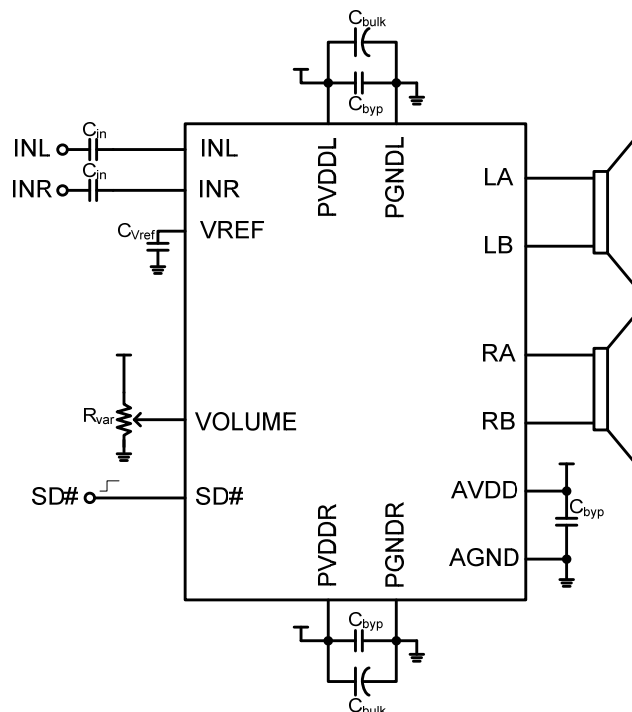
The AD52653 is a stereo, filter-less class-D audio amplifier and has a 64-steps DC volume control. Operating with 5.0V loudspeaker driver supply, it delivers 2.6W/CH power into 4 Ω loudspeaker within 10% THD+N.

The AD52653 is a stereo audio amplifier with high efficiency, which leads to longer battery life, less heat sink, smaller board size, lower system cost, and suitable for the notebook, and portable multimedia devices.

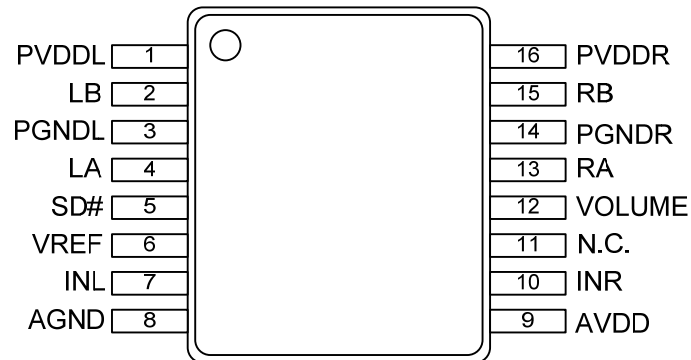
Ordering Information

Product ID	Package	Packing	Comments
AD52653-SA16NAT	SOP-16L (150mil)	56 Units / Tube 100 Tubes / Small Box	Green

Typical Application Circuit



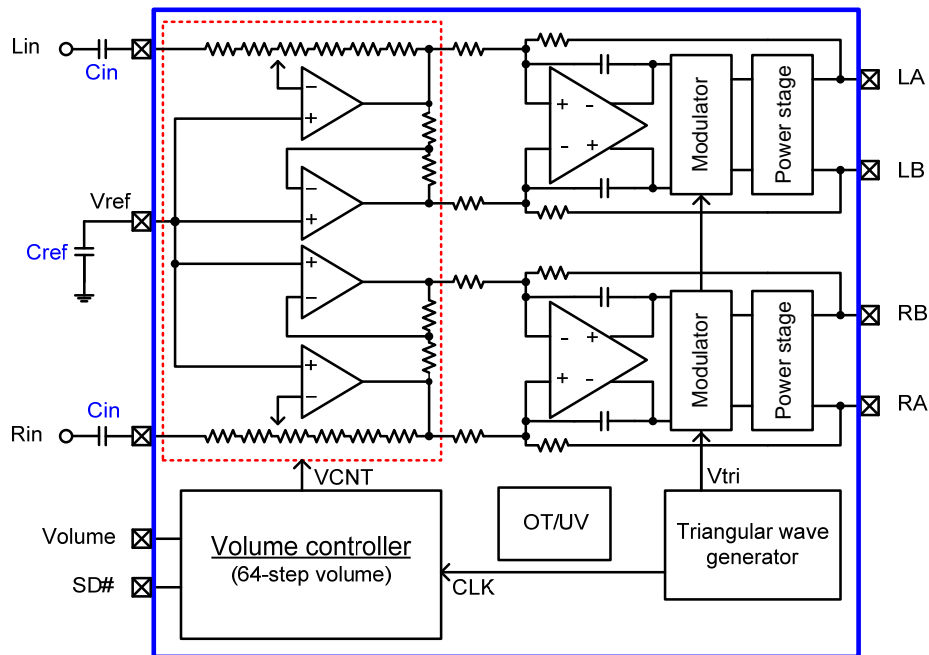
Pin Assignments



Pin Description

NAME	TYP	DESCRIPTION	CHARACTERISTIC	
1	PVDDL	P	Power supply_Left	
2	LB	O	Speaker driver_Left (-)	
3	PGNDL	G	Power ground_Left	
4	LA	O	Speaker driver_Left (+)	
5	SD#	I	Shutdown(low active)	Internal pull-up
6	VREF	I	AVDD/2 reference voltage	
7	INL	I	Single-ended audio input_Left	
8	AGND	G	Analog power ground	
9	AVDD	P	Analog power supply	
10	INR	I	Single-ended audio input_Right	
11	N.C.	N.C.	No connection	
12	VOLUME	I	Volume level setting by DC voltage	Do not keep it floating
13	RA	O	Speaker driver_Right (+)	
14	PGNDR	G	Power ground_Right	
15	RB	O	Speaker driver_Right (-)	
16	PVDDR	P	Power supply_Right	

Functional Block Diagram



Available Package

Package Type	Device No.	$\theta_{ja} (^{\circ}\text{C}/\text{W})$	$\theta_{jc} (^{\circ}\text{C}/\text{W})$
SOP-16	AD52653	105	22

Note 1: θ_{ja} is measured on a room temperature ($T_A=25^{\circ}\text{C}$), natural convection environment test board, which is constructed with a thermally efficient, 2-layers PCB. The measurement is tested using the JEDEC51-3 thermal measurement standard.

Note 2: θ_{jc} represents the heat resistance for the heat flow between the chip and the package's top surface.

Marking Information

AD52653

Line 1 : LOGO

Line 2 : Product no.

Line 3 : Tracking Code

Line 4 : Date Code

