3-Vrms Cap-Less Line Driver with Adjustable Gain

Features

- Operation Voltage: 3V to 5.5V
- Cap-less Output
  - Eliminates Output Capacitors
  - Improves Low Frequency Response
  - Reduces POP/Clicks
- Low Noise and THD
  - SNR > 102dB
  - Typical Vn < 12uVrms
  - THD+N < 0.02%
- Maximum Output Voltage Swing into 2.5k Load
  - 2Vrms at 3.3V Supply Voltage
  - 3Vrms at 5V Supply Voltage
- Differential Input
- External Gain Setting from 1V/V to 10V/V
- Fast Start-up Time : 0.5ms
- Integrated De-Pop Control
- External Under Voltage Protection
- Thermal Protection
- Less External Components Required
- +/-8kV IEC ESD Protection at line outputs

Applications

- LCD / PDP TVs
- CD / DVD players
- Set-Top Boxes
- Home Theater in Box

Description

The AD22650 is a 3-Vrms cap-less stereo line driver. The device is ideal for single supply electronics. Cap-less design can eliminate output dc-blocking capacitors for better low frequency response and save cost.

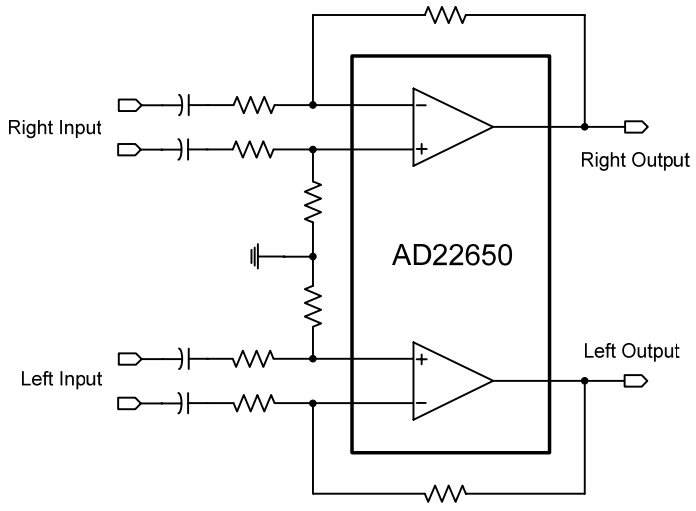
The AD22650 is capable of delivering 3-Vrms output into a 2.5kΩ load with 5V supply. The gain settings can be set by users from 1V/V to 10V/V externally. The AD22650 has internal and external under voltage protection to prevent POP noise. Build-in shutdown control and de-pop control sequence also help AD22650 to be a pop-less device.

The AD22650 is available in a 14-pin TSSOP package.

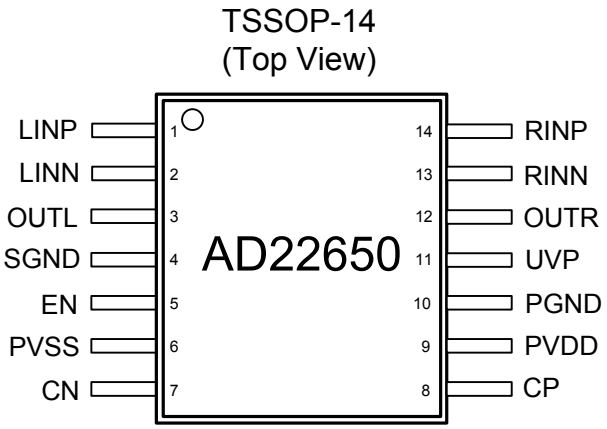
Ordering Information

Product ID	Package	Packing	Comments
AD22650-QH14NAT	TSSOP-14	96 Units / Tube 100 Tubes / Small Box	Green
AD22650-QH14NAR		2.5k Units Tape & Reel	

Simplified Application Circuit



Pin Assignments



Pin Description

No.	Name	Type (1)	Pin Description
1	LINP	I	Left channel OP positive input
2	LINN	I	Left channel OP negative input
3	OUTL	O	Left channel OP output
4	SGND	P	Signal ground
5	EN	I	Enable input, active high
6	PVSS	O	Supply voltage
7	CN	I/O	Charge-pump flying capacitor negative terminal
8	CP	I/O	Charge-pump flying capacitor positive terminal
9	PVDD	P	Positive supply
10	PGND	P	Power ground
11	UVP	I	Under-voltage protection input
12	OUTR	O	Right channel OP output
13	RINN	I	Right channel OP negative input
14	RINP	I	Right channel OP positive input

(1) I=input, O=output, P=power