

## 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  $V_n < 12\mu\text{Vrms}$
  - 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 AD22654 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.

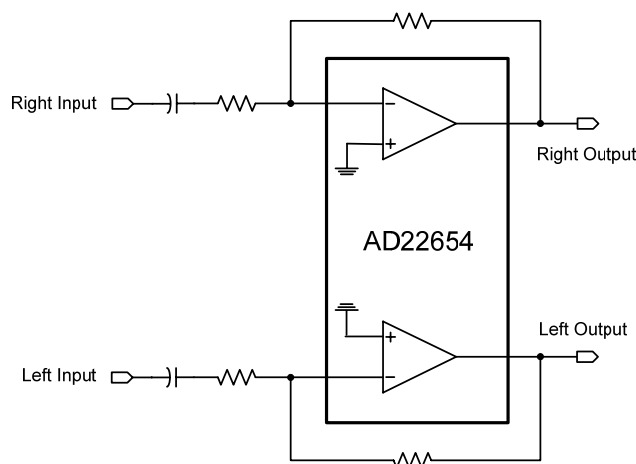
The AD22654 is capable of delivering 3-Vrms output into a 2.5k $\Omega$  load with 5V supply. The gain settings can be set by users from 1V/V to 10V/V externally. The AD22654 has under voltage protection to prevent POP noise. Build-in shutdown control and de-pop control sequence also help AD22654 to be a pop-less device.

The AD22654 is available in a 10-pin MSOP package.

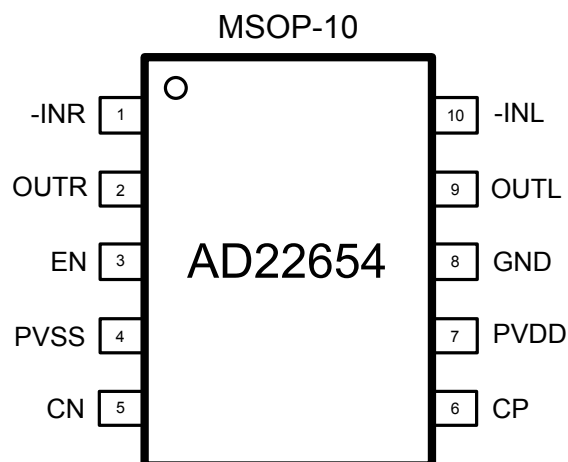
### Ordering Information

Product ID	Package	Packing	Comments
AD22654-MH10NAT	MSOP-10	80 Units / Tube	Green
AD22654-MH10NAR		100 Tubes / Small Box	
		3k Units Tape & Reel	

### Simplified Application Circuit



## Pin Assignments



## Pin Description

No.	Name	Type <sup>(1)</sup>	Pin Description
1	-INR	I	Right channel OP negative input
2	OUTR	O	Right channel OP output
3	EN	I	Enable input, active high
4	PVSS	O	Supply voltage
5	CN	I/O	Charge-pump flying capacitor negative terminal
6	CP	I/O	Charge-pump flying capacitor positive terminal
7	PVDD	P	Positive supply
8	GND	P	Ground
9	OUTL	O	Left channel OP output
10	-INL	I	Left channel OP negative input

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