



# OCA7238

## Double-level Constant Output Power Class D Audio Amplifier

### ◆ General Description

The OCA7238 is a high efficiency filter-less Class-D audio power amplifier with Automatic Gain Control (AGC) technology and an integrated high efficiency charge pump boost power supply. The device constantly monitors output power and dynamically adjust internal gain to prevent long time overstress across the speaker.

The integrated charge pump structure generates 5.9V supply for output stage of amplifier. It can deliver 1W (THD+N=1%) of continuous average power to an 8Ω load by a lithium/Ion battery. The OCA7238 features high efficiency up to 84%, which helps extend battery life when playing audio.

The AGC with double-level constant output power technology helps designer to select suitable output power which match the speaker.

The OCA7238 has a 40μVrms low output noise at gain=8V/V to improve the signal to noise ratio (SNR).

The OCA7238 is available in small 1.57mmX1.61mm 16-ball WLCSP package with 400μm pitch.

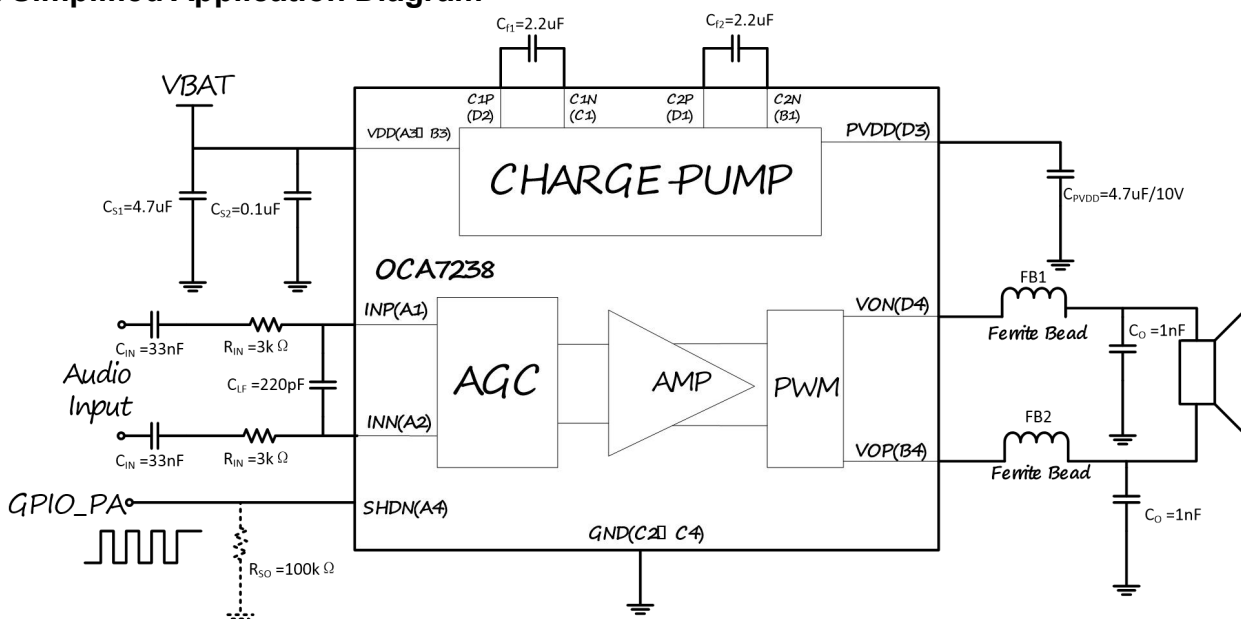
### ◆ Features

- ◆ Built-In AGC With 4 Constant Output Power Control: 1.2W, 1W, 0.8W, 0.6W@8Ω
- ◆ Built-in Charge Pump Power Supply
- ◆ Low Output Noise : 40μVrms @ gain=8V/V
- ◆ Vdd=3.8V(A-Weighted)
- ◆ High Efficiency : 84%
- ◆ 2.7W Output into 8Ω Load at 4.2V With THD+N=10%
- ◆ THD+N: 0.015%@1kHz, 500mW, 8Ω Load, 3.8V Supply
- ◆ Excellent performance in fully-differential application
- ◆ Thermal and Short-Circuit Protection with Auto Recovery
- ◆ Built-in Pop-and-click noise suppression
- ◆ Low RF Susceptibility
- ◆ Single wire Pulse Control
- ◆ Available in 1.57mmX1.61mm 16-ball WLCSP Packager

### ◆ Applications

- ◆ Mobile Phones and Tablets
- ◆ Portable Media Players

### ◆ Simplified Application Diagram





### ◆ Pin Configuration and Functions

OCA7238 TOP VIEW

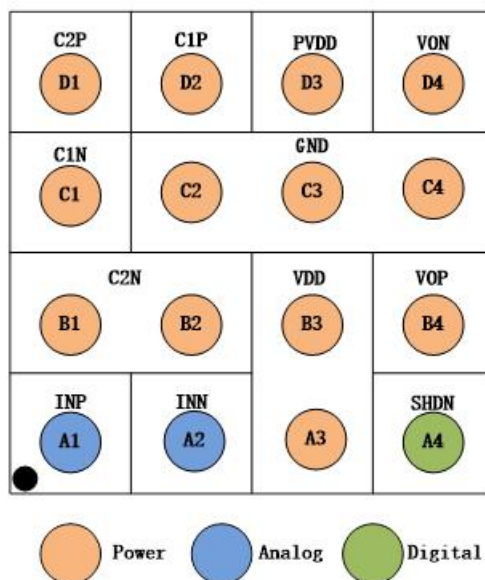


Table 1 Pin Functions

PIN No.	PIN Name	Description
A1	INP	Positive audio input of the Class D Audio Amplifier
A2	INN	Negative audio input of the Class D Audio Amplifier
A3、B3	VDD	Supply voltage
A4	SHDN	Single wire Pulse Control Terminal
B1 , B2	C2N	Charge-Pump Flying Capacitor Terminal
B4	VOP	Positive PWM audio Output of the Class D Audio Amplifier
C1	C1N	Charge-Pump Flying Capacitor Terminal
C2, C3, C4	GND	Ground
D1	C2P	Charge-Pump Flying Capacitor Terminal
D2	C1P	Charge-Pump Flying Capacitor Terminal
D3	PVDD	Audio power stage supply voltage
D4	VON	Negative PWM audio Output of the Class D Audio Amplifier