



◆ General Description

The OCA7237 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 OCA7237 features high efficiency up to 81%, which helps extend battery life when playing audio.

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

The OCA7237 has a 47μVrms low output noise at gain=8V/V to improve the signal to noise ratio (SNR).

The OCA7237 is available in small 1.57mmX1.61mm 14-ball WLCSP package with 400μm pitch.

◆ Features

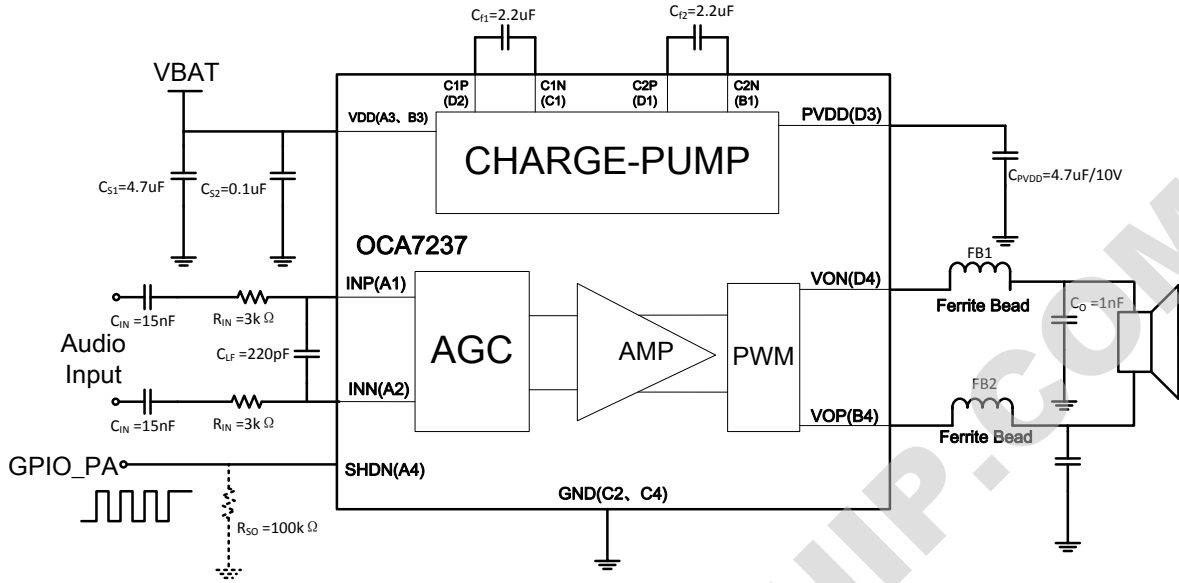
- ◆ Built-In AGC With 4 Constant Output Power Control: 1.2W, 1W, 0.8W, 0.6W @ 8Ω
- ◆ Built-in Charge Pump Power Supply
- ◆ Low Output Noise : 47μVrms @ gain=8V/V
- ◆ Vdd=3.8V (A-Weighted)
- ◆ High Efficiency : 81%
- ◆ 2.2W Output into 8Ω Load at 4.2V With THD+N=10%
- ◆ THD+N: 0.015% @ 1kHz, 500mW, 8Ω Load, 3.8V Supply
- ◆ 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 14-ball WLCSP Packager

◆ Applications

- ◆ Mobile Phones and Tablets
- ◆ Portable Media Players



◆ **Simplified Application Diagram**

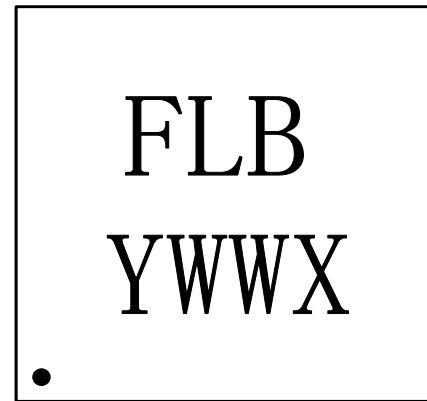


◆ **Pin Configuration and Functions**

OCA7237 TOP VIEW

OCA7237 MARKING DIAGRAM

C2P D1	C1P D2	PVDD D3	VON D4
C1N C1	C2	GND	C4
C2N B1	VDD B3	VOP B4	
INP A1	INN A2	A3	SHDN A4



Power
 Analog
 Digital



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	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,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

◆ Ordering Information

Device	Temperature Range	Package	Shipping	MSL
OCA7237WPAD	-40° C to +85° C	14-ball WLCSP 1.57x1.61mm	3000 / tape & Reel	1

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