



◆ 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.

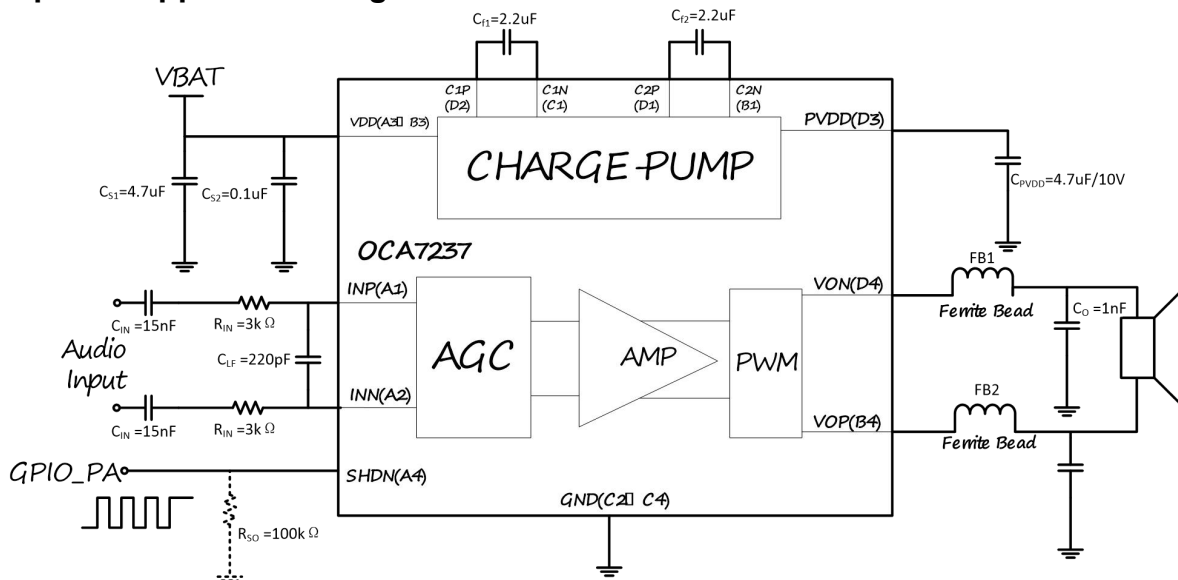
◆ Features

- ◆ 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

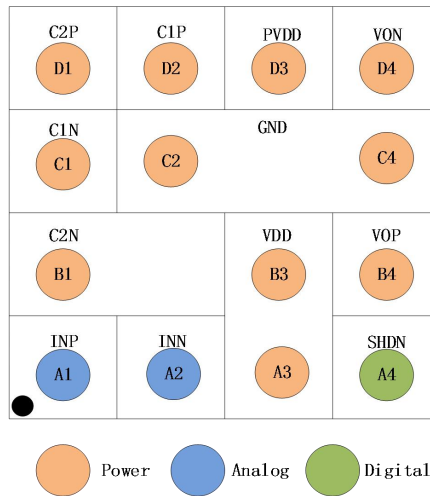


Table 1 Pin Functions

| 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 |