



**DOLPHIN**  
SEMICONDUCTOR



## **HIGH PERFORMANCES, ULTRA-LOW POWER CLOSED-LOOP CLASS D DAC**

### **PREMIUM QUALITY SOUND, IMPROVED BATTERY LIFE**

Experience superior sound with Dolphin Semiconductor's Closed-Loop Class D DAC, designed for unmatched performance and ultra-low power consumption.

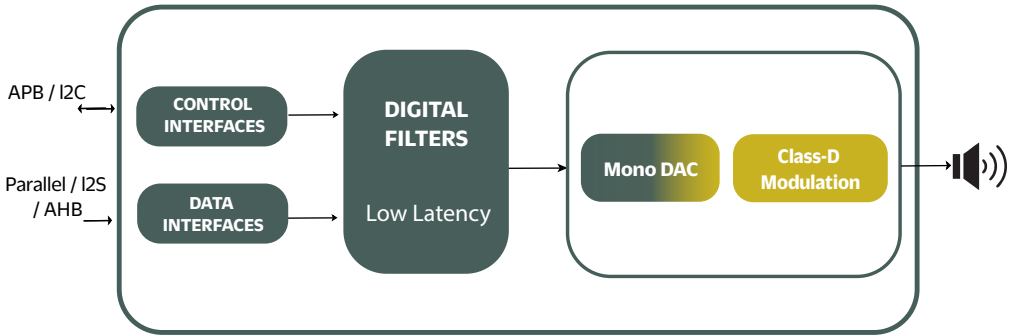
This advanced IP delivers consistent, high-fidelity audio, even in the most demanding applications. Along with our low-power continuous-time ADC, it unlocks new system possibilities, enabling superior audio solutions for next-generation designs.

Proven in silicon down to 12nm, it ensures the best efficiency and a seamless integration, setting a new standard in audio innovation.

### **APPLICATIONS**

- Smart speakers
- Wearables
- AR/VR
- IoT devices
- Automotive
- Audio smart detection

# PDM Closed-Loop Class D DAC



## Key Performances

DAC playback performances

- Output noise level: -115 dBV / 1.78 uVrms A-Weighted
- THD+N -95 dB
- Low power: down to 125  $\mu$ A ADC

Power consumption

- 1.9 mW at 0.1 mW output power, 16 ohm load
- 2.2 mW at 0.3 mW output power, 16 ohm load

## Key Features

Capacitor-less / filter-less class-D output driver

- Pop noise reduction systems
- Class-D multi-level PDM modulation for ultra-low EMI
- Power optimizer feature for power consumption reduction at low signal operation
- Programmable digital filter with ultra low latency capability