



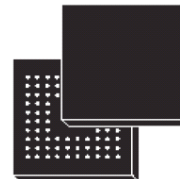
STA529

2 x 100 mW class-D amplifier with analog or digital input
2.0 multichannel digital audio processor with FFX

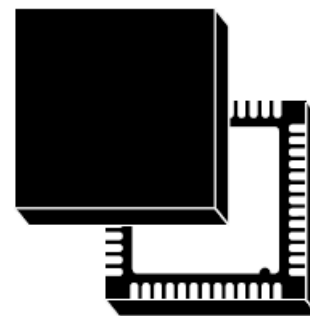
Data Brief

Features

- Up to 96 dB dynamic range
- Sample rates from 8 kHz to 192 kHz
- FFXTM class-D driver
- 1.5 V to 1.95 V digital power supply
- 1.5 V to 1.95 V analog power supply
- 18-bit audio processing and class-D FFXTM modulator
- Digital volume control:
 - +36 dB to 105 dB in 0.5 dB steps
 - Software volume update
- Individual channel and master gain/attenuation
- Automatic invalid input detect mute
- 2-channel I²S input/output data interface
- Digitally controlled POP-free operation
- Input and output channel mapping
- 250 m Ω output CMOS R_{dson}
- > 90% efficiency
- Stereo headphone plus mono speaker application:
 - 50 mW stereo into 32 Ω headphone
 - 100 mW stereo into 16 Ω headphone



TFBGA48



VFQFPN52

Order codes

Part number	Package	Packaging
STA529B	TFBGA48	Tube
STA529Q	VFQFPN52	Tube

Introduction

The STA529 is a digital stereo class-D audio amplifier. It includes an audio DSP, a ST proprietary high-efficiency class-D driver and CMOS power output stage. It is intended for high-efficiency digital-to-power-audio conversion for portable applications. The STA529 also provides output capabilities for FFXTM. In conjunction with a power device, the STA529 provides high-quality digital amplification.

The STA529 contains an on-chip volume/gain control.

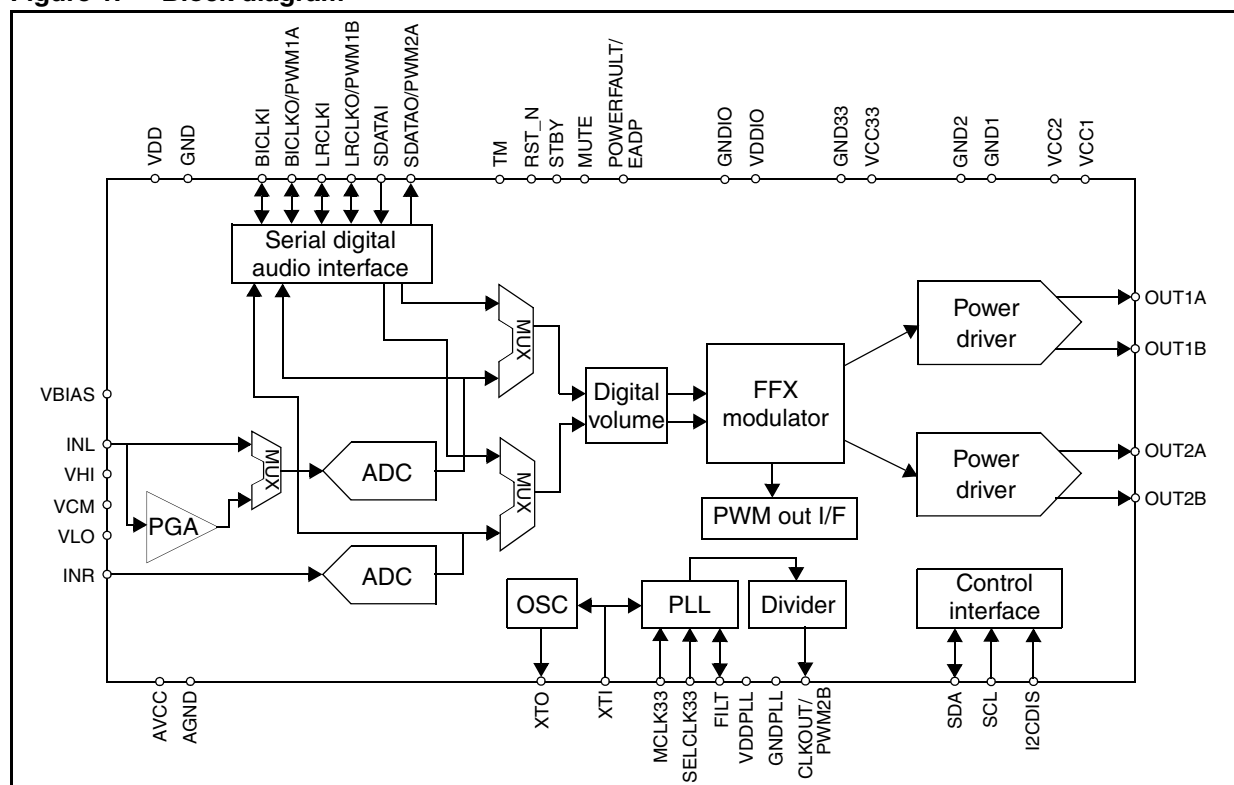
The PWM amplifier achieves greater than 90% efficiency for longer battery life for portable systems.

The innovative class-D modulation, allows the STA529 to work without external LC filters and without a heatsink.

The STA529 I2CDIS pin disables the audio DSP functions to provide a direct conversion of the input signal into output power (the I²C interface is disabled). This conversion is done without the microcontroller.

The STA529 is designed for low-power operation with extremely low-current consumption in standby mode. It is available in two packages: the TFBGA48 and the VFQFPN52. These are very thin packages (1.2 mm thick) intended for small portable applications.

Figure 1. Block diagram



Revision history

Table 1. Document revision history

Date	Revision	Changes
18-Dec-2006	1	Initial release

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