

Digital to Analogue Converter, 10 bit, Serial, SPI, 1.7V to 3.6V, LFCSP, 32 Pins

Manufacturers	Analog Devices, Inc
Package/Case	LFCSP-32
Product Type	Data Conversion ICs
RoHS	Rohs
Lifecycle	



Images are for reference only

Please submit RFQ for AD9705BCPZ or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

The AD9704/AD9705/AD9706/AD9707 are the fourth-generation family in the TxDAC series of high performance, CMOS digital-to-analog converters (DACs). This pin-compatible, 8-/10-/12-/14-bit resolution family is optimized for low power operation, while maintaining excellent dynamic performance. The AD9704/AD9705/AD9706/AD9707 family is pin-compatible with the AD9748/AD9740/AD9742/AD9744 family of TxDAC converters and is specifically optimized for the transmit signal path of communication systems. All of the devices share the same interface, LFCSP_VQ package, and pinout, providing an upward or downward component selection path based on performance, resolution, and cost. The AD9704/AD9705/AD9706/AD9707 offers exceptional ac and dc performance, while supporting update rates up to 175 MSPS.

The flexible power supply operating range of 1.7 V to 3.6 V and low power dissipation of the AD9704/AD9705/AD9706/AD9707 parts make them well suited for portable and low power applications.

Power dissipation of the AD9704/AD9705/AD9706/AD9707 can be reduced to 15 mW, with a small trade-off in performance, by lowering the full-scale current output. In addition, a power-down mode reduces the standby power dissipation to approximately 2.2 mW.

The AD9704/AD9705/AD9706/AD9707 has an optional serial peripheral interface (SPI®) that provides a higher level of programmability to enhance performance of the DAC. An adjustable output, common-mode feature allows for easy interfacing to other components that require common modes from 0 V to 1.2 V.

Edge-triggered input latches and a 1.0 V temperature-compensated band gap reference have been integrated to provide a complete, monolithic DAC solution. The digital inputs support 1.8 V and 3.3 V CMOS logic families.

Product Highlights

Pin Compatible. The AD9704/AD9705/AD9706/AD9707 line of TxDAC® converters is pin-compatible with the AD9748/AD9740/AD9742/AD9744 TxDAC line (LFCSP package).

Low Power. Complete CMOS DAC operates on a single supply of 3.6 V down to 1.7 V, consuming 50 mW (3.3 V) and 12 mW (1.8 V). The DAC full-scale current can be reduced for lower power operation. Sleep and power-down modes are provided for low power idle periods.

Self-Calibration. Self-calibration enables true 14-bit INL and DNL performance in the AD9707.

Twos Complement/Binary Data Coding Support. Data input supports twos complement or straight binary data coding.

Flexible Clock Input. A selectable high speed, single-ended, and differential CMOS clock input supports 175 MSPS conversion rate.

Device Configuration. Device can be configured through pin strapping, and SPI control offers a higher level of programmability.

Easy Interfacing to Other Components. Adjustable common-mode output allows for easy interfacing to other signal chain components that accept common-mode levels from 0 V to 1.2 V.

On-Chip Voltage Reference. The AD9704/AD9705/AD9706/AD9707 include a 1.0 V temperature-compensated band gap voltage reference.

Industry-Standard 32-Lead LFCSP Package.

Features

175 MSPS update rate

Low power member of pin-compatible

TxDAC product family

Low power dissipation

12 mW at 80 MSPS, 1.8 V

50 mW at 175 MSPS, 3.3 V

Wide supply voltage: 1.7 V to 3.6 V

Adjustable full-scale current outputs: 1 mA to 5 mA

On-chip 1.0 V reference

CMOS-compatible digital interface

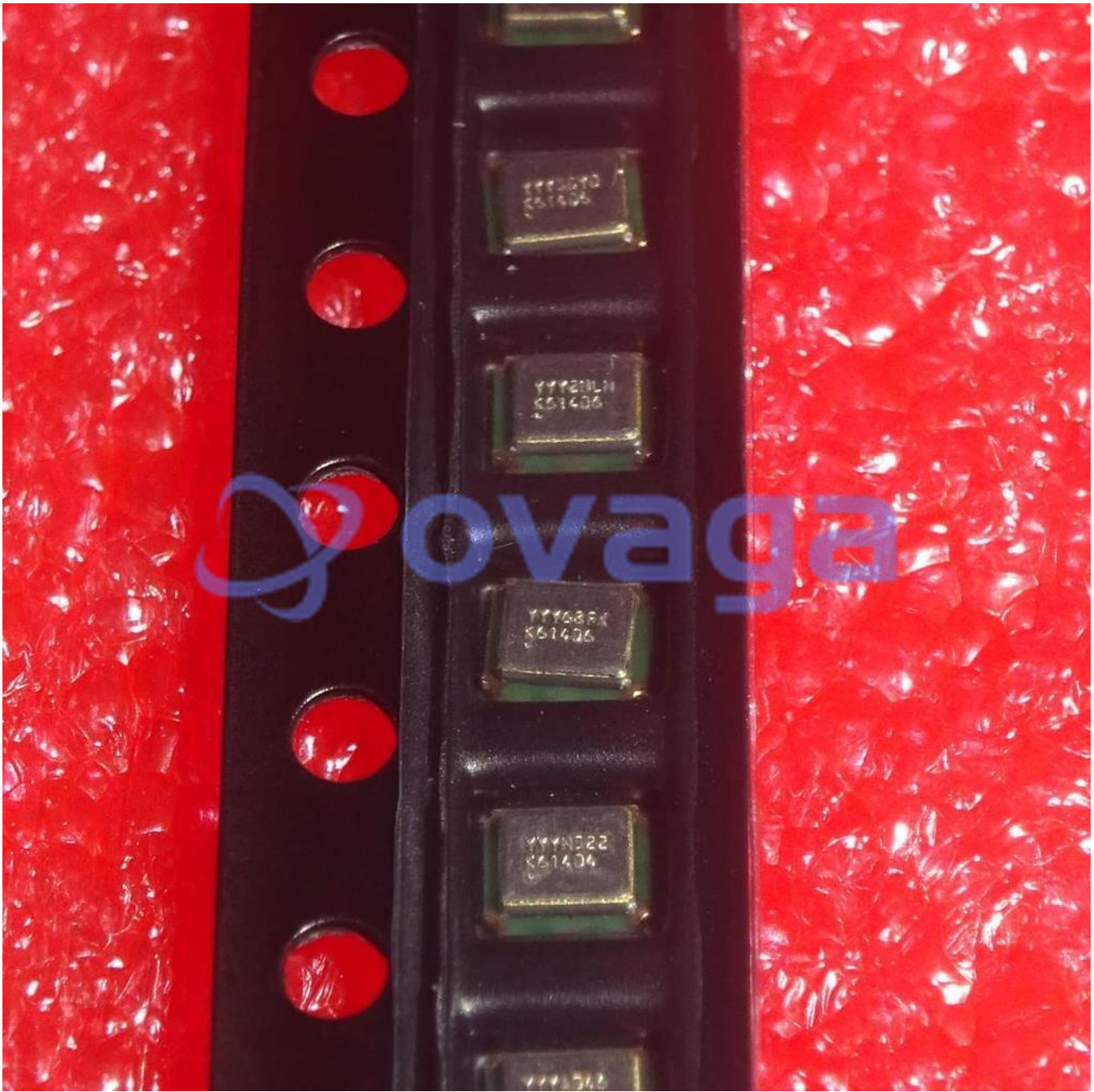
Common-mode output: adjustable 0 V to 1.2 V

Power-down mode <2 mW at 3.3 V (SPI controllable)

Self-calibration

Compact 32-lead LFCSP, RoHS compliant package



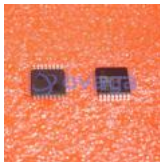


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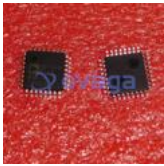
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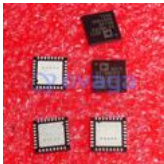
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