
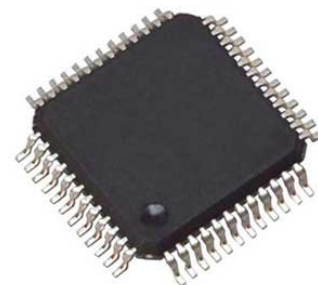


DAC 2-CH Segment 8-bit 48-Pin LQFP Tray

Manufacturer:	Analog Devices, Inc
Package/Case:	QFP48
Product Type:	Data Conversion ICs
RoHS:	RoHS Compliant/Lead free 
Lifecycle:	Active



Images are for reference only

[Inquiry](#)

General Description

The AD9709 is a dual-port, high speed, 2-channel, 8-bit CMOS DAC. It integrates two high quality 8-bit TxDAC+® cores, a voltage reference, and digital interface circuitry into a small 48-lead LQFP package. The AD9709 offers exceptional ac and dc performance while supporting update rates of up to 125 MSPS.

The AD9709 has been optimized for processing I and Q data in communications applications. The digital interface consists of two double-buffered latches as well as control logic. Separate write inputs allow data to be written to the two DAC ports independent of one another. Separate clocks control the update rate of the DACs

A mode control pin allows the AD9709 to interface to two separate data ports, or to a single interleaved high speed data port. In interleaving mode, the input data stream is demuxed into its original I and Q data and then latched. The I and Q data is then converted by the two DACs and updated at half the input data rate.

The GAINCTRL pin allows two modes for setting the full-scale current (IOUTFS) of the two DACs. IOUTFS for each DAC can be set independently using two external resistors, or IOUTFS for both DACs can be set by using a single external resistor. See the Gain Control Mode section for important date code information on this feature.

The DACs utilize a segmented current source architecture combined with a proprietary switching technique to reduce glitch energy and to maximize dynamic accuracy. Each DAC provides differential current output, thus supporting single-ended or differential applications. Both DACs can be simultaneously updated and provide a nominal full-scale current of 20 mA. The full-scale currents between each DAC are matched to within 0.1%.

The AD9709 is manufactured on an advanced low-cost CMOS process. It operates from a single supply of 3.3 V or 5 V and consumes 380 mW of power.

Product Highlights

The AD9709 is a member of a pin-compatible family of dual TxDACs providing 8-, 10-, 12-, and 14-bit resolution.

Dual 8-Bit, 125 MSPS DACs. A pair of high performance DACs optimized for low distortion performance provide for flexible transmission of I and Q information.

Matching. Gain matching is typically 0.1% of full scale, and offset error is better than 0.02%.

Low Power. Complete CMOS dual DAC function operates at 380 mW from a 3.3 V or 5 V single supply. The DAC full-scale current can be reduced for lower power operation, and a sleep mode is provided for low power idle periods.

On-Chip Voltage Reference. The AD9709 includes a 1.20 V temperature-compensated band gap voltage reference.

Dual 8-Bit Inputs. The AD9709 features a flexible dual-port interface, allowing dual or interleaved input data.

Key Features

8-bit dual transmit digital-to-analog converter (DAC)
125 MSPS update rate
Excellent SFDR to Nyquist @ 5 MHz output: 66 dBc
Excellent gain and offset matching: 0.1%
Fully independent or single-resistor gain control
Dual port or interleaved data
On-chip 1.2 V reference
See Data Sheet for Additional Information

Application

Communications
Base stations
Digital synthesis
Quadrature modulation
3D ultrasound

Recommended For You

AD7305BRZ

Analog Devices, Inc
SOP20

AD9910BSVZ

Analog Devices, Inc
TQFP100

AD9831ASTZ

Analog Devices, Inc
QFP

AD5447YRUZ

Analog Devices, Inc
TSSOP

AD5302BRMZ

Analog Devices, Inc
MSOP10

AD5531BRUZ

Analog Devices, Inc
TSSOP16

AD537JH

Analog Devices, Inc
CAN10

AD652AQ

Analog Devices, Inc
DIP

AD654JN

Analog Devices, Inc
DIP8

AD7740YRMZ

Analog Devices, Inc
MSOP8

AD9914BCPZ

Analog Devices, Inc
LFCSP

AD73311ARSZ

Analog Devices, Inc
SSOP20

AD7291BCPZ

Analog Devices, Inc
LFCSP20

AD9954YSVZ

Analog Devices, Inc
QFP

AD2S1205YSTZ

Analog Devices, Inc
LQFP44