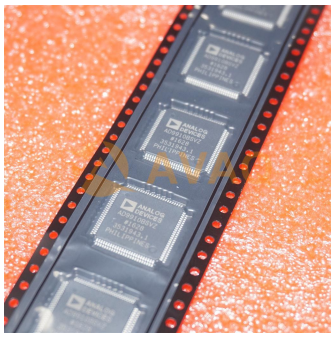
AD9910BSVZ

Direct Digital Synthesizer 1000MHz 1-DAC 14bit Parallel/Serial 100-Pin TQFP EP Tray

Manufacturer:	Analog Devices, Inc
Package/Case:	TQFP100
Product Type:	Discrete Semiconductor Modules
RoHS:	RoHS Compliant/Lead free
Lifecycle:	Active



Images are for reference only

Inquiry

General Description

The AD9910 is a direct digital synthesizer (DDS) featuringan integrated 14-bit DAC and supporting sample rates up to1 GSPS. The AD9910 employs an advanced, proprietary DDStechnology that provides a significant reduction in power consumptionwithout sacrificing performance. The DDS/DACcombination forms a digitally programmable, high frequency,analog output synthesizer capable of generating a frequencyagile sinusoidal waveform at frequencies up to 400 MHz.

The user has access to the three signal control parameters thatcontrol the DDS: frequency, phase, and amplitude. The DDSprovides fast frequency hopping and frequency tuning resolutionwith its 32-bit accumulator. With a 1 GSPS sample rate, thetuning resolution is ~0.23 Hz. The DDS also enables fast phaseand amplitude switching capability.

The AD9910 is controlled by programming its internal controlregisters via a serial I/O port. The AD9910 includes an integratedstatic RAM to support various combinations of frequency, phase,and/or amplitude modulation. The AD9910 also supports a userdefined, digitally controlled, digital ramp mode of operation. Inthis mode, the frequency, phase, or amplitude can be variedlinearly over time. For more advanced modulation functions, ahigh speed parallel data input port is included to enable directfrequency, phase, amplitude, or polar modulation.

The AD9910 is specified to operate over the extended industrialtemperature range.

Key Features

1 GSPS internal clock speed (up to 400 MHz analog output)

Integrated 1 GSPS, 14-bit DAC

0.23 Hz or better frequency resolution

Phase noise ≤ −125 dBc/Hz at 1 kHz offset (400 MHz carrier)

Excellent dynamic performance with >80 dB narrow-band SFDR

Serial input/output (I/O) control

Automatic linear or arbitrary frequency, phase, and amplitude sweep capability

8 frequency and phase offset profiles

Sin(x)/(x) correction (inverse sinc filter)

1.8 V and 3.3 V power supplies

Software and hardware controlled power-down

100-lead TQFP_EP package

Integrated 1024 word × 32-bit RAM

PLL REFCLK multiplier

Parallel datapath interface

Internal oscillator can be driven by a single crystal

Phase modulation capability

Amplitude modulation capability

Multichip synchronization

Application

Agile local oscillator (LO) frequency synthesis

Programmable clock generators

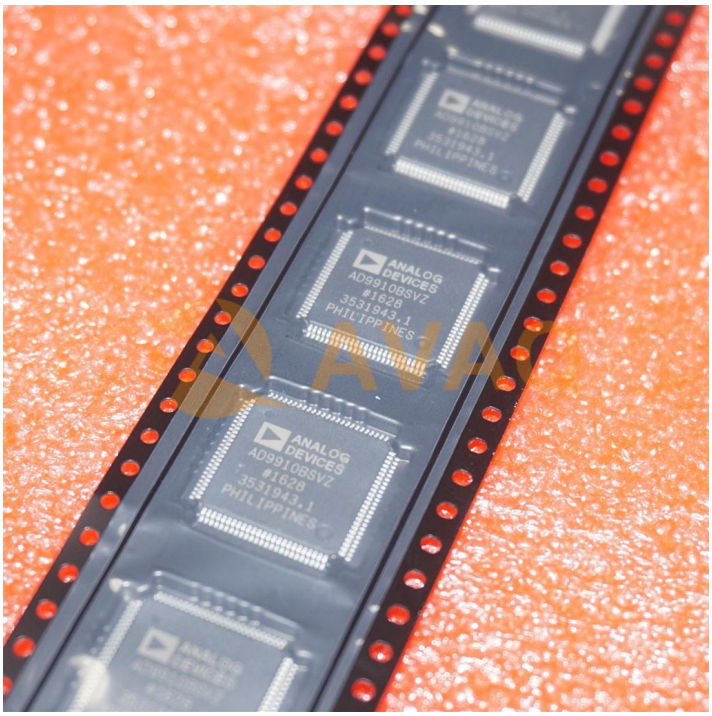
FM chirp source for radar and scanning systems

Test and measurement equipment

Acousto-optic device drivers

Polar modulators

Fast frequency hopping



Recommended For You

AD7305BRZ

Analog Devices, Inc

SOP20

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

AD9835BRUZ

Analog Devices, Inc

TSSOP16