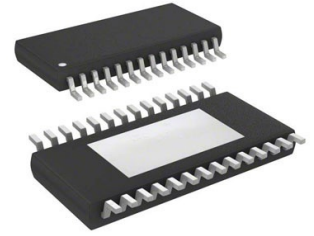


Direct Digital Synthesizer 50MHz 1-DAC 10bit Serial Automotive 20-Pin TSSOP Tube



Images are for reference only

Manufacturer: [Analog Devices, Inc](#)

Package/Case: TSSOP

Product Type: Clock & Timer ICs

RoHS: RoHS Compliant/Lead free 

Lifecycle: Active

[Inquiry](#)

General Description

The AD5930 is a waveform generator with programmable frequency sweep and output burst capability. Utilizing embedded digital processing that allows enhanced frequency control, the device generates synthesized analog or digital frequency-stepped waveforms. Because frequency profiles are preprogrammed, continuous write cycles are eliminated and thereby free up valuable DSP/microcontroller resources. Waveforms start from a known phase and are incremented phase continuously, which allows phase shifts to be easily determined. Consuming only 8 mA, the AD5930 provides a convenient low power solution to waveform generation.

The AD5930 can be operated in a variety of modes. In continuous output mode, the device outputs the required frequency for a defined length of time and then steps to the next frequency. The length of time the device outputs a particular frequency is either preprogrammed and the device increments the frequency automatically, or, alternatively, is incremented externally via the CTRL pin. In burst mode, the device outputs its frequency for a length of time and then returns to midscale for a further predefined length of time before stepping to the next frequency. When the MSBOUT pin is enabled, a digital output is generated.

To program the device, the user enters the start frequency, the increment step size, the number of increments to be made, and the time interval that the part outputs each frequency. The frequency sweep profile is initiated, started, and executed by toggling the CTRL pin.

A number of different sweep profiles are offered. Frequencies can be stepped in triangular-sweep mode, which continuously sweeps up and down through the frequency range. Alternatively, in saw-sweep mode, the frequency is swept up through the frequency range, but returns to the initial frequency before executing the sweep again. In addition, a single frequency or burst can be generated without any sweep.

The AD5930 is written to via a 3-wire serial interface, which operates at clock rates up to 40 MHz. The device operates with a power supply from 2.3 V to 5.5 V. Note that AVDD and DVDD are independent of each other and can be operated from different voltages. The AD5930 also has a standby function, which allows sections of the device that are not being used to be powered down.

The AD5930 is available in a 20-lead pb-free TSSOP package.

Key Features

Programmable frequency profile
No external components necessary
Burst and listen capability
Pre-programmable frequency profile minimizes number of DSP/microcontroller writes
Sinusoidal/triangular/square wave outputs
Automatic or single pin control of frequency stepping
Waveform starts at known phase
20 μ A Power-down mode

Application

Frequency sweeping/radar
Network/impedance measurements
Incremental frequency stimulus
Sensory applications
Proximity and motion
BFSK
Frequency bursting/pulse trains

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