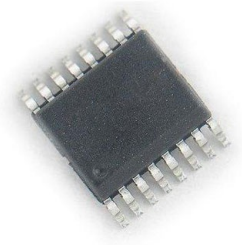



**Direct Digital Synthesizer 16.776MHz 1-DAC 12bit Serial (I2C)
Automotive 16-Pin SSOP Tube**



Images are for reference only

[Inquiry](#)

Manufacturer:	Analog Devices, Inc
Package/Case:	SSOP16
Product Type:	Clock & Timer ICs
RoHS:	RoHS Compliant/Lead free 
Lifecycle:	Active

General Description

The AD5934 is a high precision impedance converter systemsolution that combines an on-board frequency generator with a 12-bit, 250 kSPS, analog-to-digital converter (ADC). Thefrequency generator allows an external complex impedance to be excited with a known frequency. The response signal from the impedance is sampled by the on-board ADC and a discrete Fourier transform (DFT) is processed by an on-board DSPengine. The DFT algorithm returns a real (R) and imaginary (I)data-word at each output frequency.

Once calibrated, the magnitude of the impedance and relativephase of the impedance at each frequency point along the sweepis easily calculated using the following two equations:

A similar device, available from Analog Devices, Inc., is theAD5933, which is a 2.7 V to 5.5 V, 1 MSPS, 12-bit impedanceconverter, with an internal temperature sensor, available in a16-lead SSOP.

Key Features

- Programmable output peak-to-peak excitation voltage
- Programmable frequency sweep capability
- Frequency resolution of 27bits (<0.1Hz)
- Impedance measurement range from 1kR to 10MR
- Phase measurement capability
- 0.5% System accuracy

Application

- Electrochemical analysis
- Bioelectrical impedance analysis
- Impedance spectroscopy
- Complex impedance measurement
- Corrosion monitoring and protection equipment
- Biomedical and automotive sensors
- Proximity sensing
- Nondestructive testing
- Material property analysis
- Fuel/battery cell condition monitoring

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