



Products > A/D Converters (ADC) > Integrated/Special Purpose A/D Converters >
Capacitive to Digital & Touch Screen Controllers > **AD7746** Products > A/D Converters (ADC) >
Integrated/Special Purpose A/D Converters > Capacitive to Digital & Touch Screen Controllers > **AD7746**



AD7746

24-bit, 2 Channel
Capacitance to Digital
Converter



Production

Data Sheet

Rev. 0

JP Rev. 0



Circuit Note

CN

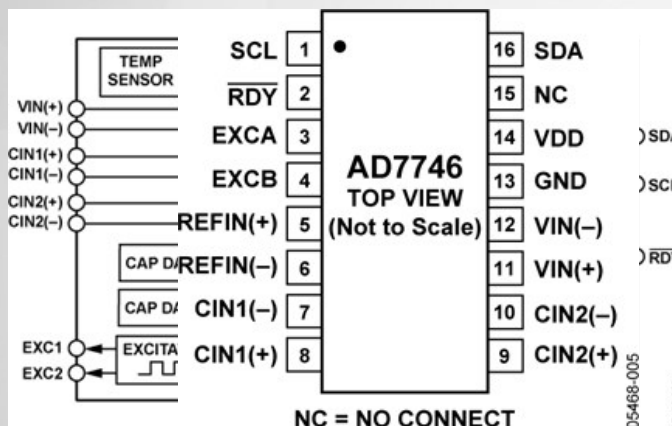
1

View All

Device Drivers

2

View All



Overview

Features and Benefits

- New standard in single chip solutions
- Interfaces to single or differential floating sensors
- Resolution down to 4 aF (that is, up to 21 ENOB)
- Accuracy: 4 fF
- Linearity: 0.01%
- Common-mode (not changing) capacitance up to 17 pF
- Full-scale (changing) capacitance range: ± 4 pF
- Tolerant of parasitic capacitance to ground up to 60 pF

Product Details

- Update rate: 10 Hz to 90 Hz
- Simultaneous 50 Hz and 60 Hz rejection at 16 Hz
- Temperature sensor on-chip
Resolution: 0.1°C, accuracy: $\pm 2^\circ\text{C}$
- Voltage input channel
- Internal clock oscillator
- 2-wire serial interface (I²C®-compatible)
- Power
2.7 V to 5.25 V single-supply operation
0.7 mA current consumption
- Operating temperature: -40°C to $+125^\circ\text{C}$
- 16-lead TSSOP package

Product Categories

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Comparable Parts

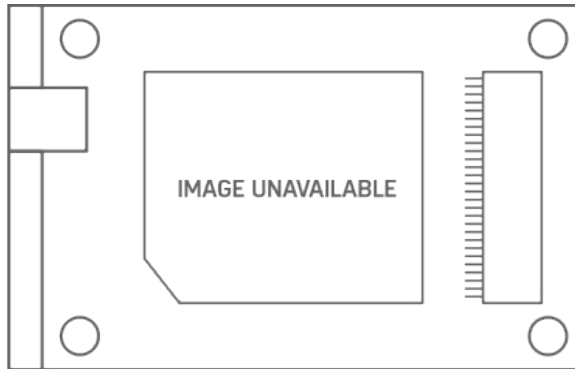
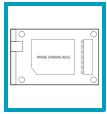
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Product Lifecycle



Production

Evaluation Kits (1)



EVAL-AD7746

[View Detailed Evaluation Kit Information](#)

The EVAL-AD7746EBZ is a fully featured evaluation board for evaluation board is operated with a PC via a standard USB cor software provided enabling the user to perform detailed analys performance. This software includes the technical note descri and set up of the evaluation board.

Resources



[AD7746 Evaluation Board
Technical Documentation](#)

Software



[AD7746 Level Demo Software](#)



[AD7746 Evaluation Software](#)

Documentation

[View All \(6\)](#) [Data Sheets \(1\)](#) [Application Notes \(3\)](#) [Product Highlight \(1\)](#) [Frequently Asked Questions \(1\)](#)

Data Sheets

[AD7745/AD7746: 24-Bit Capacitance to
Digital Converter with Temperature
Sensor Data Sheet \(Rev. 0\)](#)

PDF

773 kB

Application Notes

[AN-1585: Extending the Capacitive
Input Range of the AD7745/AD7746
Capacitance-to-Digital Converter \(Rev. A\)](#)

PDF

151.76 K

[AN-1301: Using CDCs to Control Motion
for Sample Aspiration \(Rev. 0\)](#)

PDF

169 kB

[AN-1055: EMC Protection of the AD7746
\(Rev. 0\)](#)

PDF

464 kB

Product Highlight

[Leading Inside Advertorials: Providing
an Edge in Capacitive Sensor
Applications](#)

PDF

85 kB

Frequently Asked Questions

[Frequently Asked Questions](#)

Downloaded from [Arrow.com](#)

Software & Systems Requirements

Device Drivers

[AD7746 - Microcontroller No-OS Driver](#) WIKI

[AD7746 IIO Capacitance to Digital Converter Linux Driver](#) WIKI

Reference Materials

[View All \(8\)](#) [Circuit Note \(1\)](#) [Technical Articles \(6\)](#) [Webcast \(1\)](#)

Circuit Note

[CN-0129: Extending the Capacitive Input Range of the AD7745/AD7746...](#)

Technical Articles

[Liquid Level Sensing Using Capacitive-to-Digital Converters](#)
Analog Dialogue

[Capacitance-to-Digital Converter Facilitates Level Sensing in Diagnostic...](#)
Analog Dialogue

[ADI Capacitance-to-Digital Converter Technology in Healthcare Applications](#)
Analog Dialogue

[Designing Power Supplies for High Speed ADC](#)

[Boost Precision and Accuracy with Single Chip Capacitance- and...](#)
Analog Dialogue

[Delta-Sigma Rocks RF, As ADC Designers Jump On Jitter](#)

Webcast

[Robust Touch Sensor Interfaces Using Capacitive-To-Digital Converters](#)

Design Resources

ADI has always placed the highest emphasis on delivering products that meet the maximum levels of quality and reliability. We achieve this by incorporating quality and reliability checks in every scope of product and process design, and in the manufacturing process as well. "Zero defects" for shipped products is always our goal.

 [AD7746 Material Declaration](#)

 [Quality And Reliability](#)

 [Symbols and Footprints](#)

PCN-PDN Information

Select Model 

Support & Discussions

AD7746 Discussions

[EVAL-AD7745/46EBZ External Capacitance](#)

7 week(s) ago in Precision ADCs

[RE: How to use libiio commands \(iio_info, iio_reg, iio_attr\) ?](#)

10 week(s) ago in Linux Software Drivers

[RE: AD7746 Channels, Conversion Rate, and CAPDAC](#)

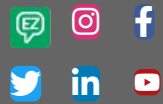
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