AnalogDialogue | EngineerZone | Wiki   Careers

🏠 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

⊕ my∧nalog

AD7746

24-bit, 2 Channel
Capacitance to Digital
Converter

☑ Production
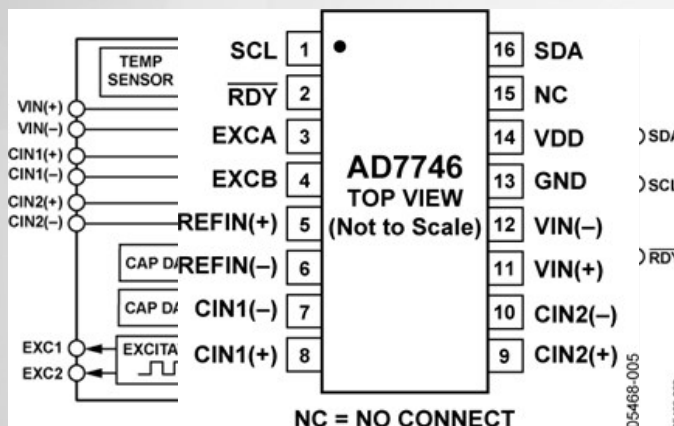
Data Sheet Rev. 0
JP Rev. 0

Circuit Note

CN ① View All

Device Drivers

② View All

Overview

Features and Benefits | Product Details

- 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

- 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: ±2°C
- Voltage input channel
- Internal clock oscillator
- 2-wire serial interface (I^2C®-compatible)
- Power
  2.7 V to 5.25 V single-supply operation
  0.7 mA current consumption
- Operating temperature: –40°C to +125°C
- 16-lead TSSOP package

Product Categories

A/D Converters (ADC)

⊞ Capacitive to Digital & Touch Screen Controllers

Markets & Technology

Healthcare

Temperature Measurement

Spectrometer

Life Sciences & Medical Instrumentation

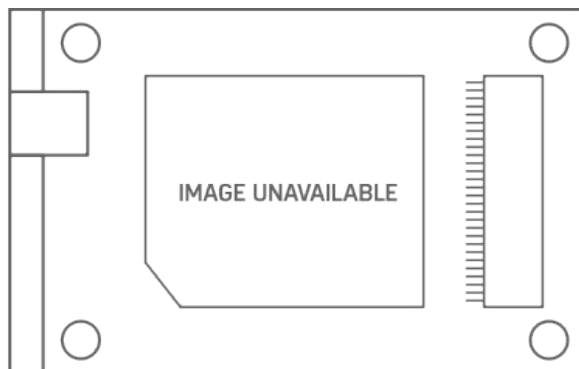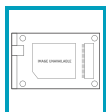# Comparable Parts | Click to see all in Parametric Search

Product Lifecycle ☑ Production

At least one model within this product family is in production and available for purchase. The product is appropriate

for new designs but newer alternatives may exist.

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 con
software provided enabling the user to perform detailed analys
performance. This software includes the technical note describ
and set up of the evaluation board.

Resources

📄 PDF AD7746 Evaluation Board Technical Documentation

Software

🗜 ZIP AD7746 Level Demo Software

🗜 ZIP 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

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

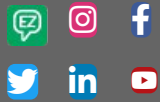All AD7746 Discussions

ADI Technical Support — Contact ADI Technical Support »

ADI EngineerZone™ SUPPORT COMMUNITY — Ask your question »