

ARM MCU, Precision Analogue, ADUC Family ADUC7 Series Microcontrollers, ARM7TDMI, 32bit, 44 MHz

Manufacturers	Analog Devices, Inc
Package/Case	LQFP-80
Product Type	Embedded Processors & Controllers
RoHS	Green
Lifecycle	



Images are for reference only

Please submit RFQ for ADUC7026BSTZ62I or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

The ADuC7019/ADuC7020/ADuC7021/ADuC7022/ADuC7024/ADuC7025/ADuC7026/ADuC7027/ADuC7028/ADuC7029 are fully integrated, 1 MSPS, 12-bit data acquisition systems incorporating high performance multichannel ADCs, 16-bit/32-bit MCUs, and Flash®/EE memory on a single chip.

The ADC consists of up to 12 single-ended inputs. An additional four inputs are available but are multiplexed with the four DAC output pins. The four DAC outputs are available only on certain models (ADuC7020, ADuC7026, ADuC7028, and ADuC7029). However, in many cases where the DAC outputs are not present, these pins can still be used as additional ADC inputs, giving a maximum of 16 ADC input channels. The ADC can operate in single-ended or differential input mode. The ADC input voltage is 0 V to VREF. A low drift band gap reference, temperature sensor, and voltage comparator complete the ADC peripheral set.

Depending on the part model, up to four buffered voltage output DACs are available on-chip. The DAC output range is programmable to one of three voltage ranges.

The devices operate from an on-chip oscillator and a PLL generating an internal high frequency clock of 41.78 MHz (UCLK). This clock is routed through a programmable clock divider from which the MCU core clock operating frequency is generated. The microcontroller core is an ARM7TDMI®, 16-bit/32-bit RISC machine, which offers up to 41 MIPS peak performance. Eight kilobytes of SRAM and 62 kilobytes of nonvolatile Flash/EE memory are provided on-chip. The ARM7TDMI core views all memory and registers as a single linear array.

On-chip factory firmware supports in-circuit serial download via the UART or I2C serial interface port; nonintrusive emulation is also supported via the JTAG interface. These features are incorporated into a low cost QuickStart™ development system supporting this MicroConverter® family.

The parts operate from 2.7 V to 3.6 V and are specified over an industrial temperature range of -40°C to +125°C. When operating at 41.78 MHz, the power dissipation is typically 120 mW. The ADuC7019/ADuC7020/ADuC7021/ADuC7022/ADuC7024/ADuC7025/ADuC7026/ADuC7027/ADuC7028/ADuC7029 are available in a variety of memory models and packages (see Ordering Guide).

Features

Analog I/O

Multichannel, 12-bit, 1 MSPS ADC Up to 16 ADC channels

Fully differential and single-ended modes

0 V to VREF analog input range

12-bit voltage output DACs Up to 4 DAC outputs available

On-chip voltage reference

On-chip temperature sensor ($\pm 3^{\circ}\text{C}$)

Voltage comparator

Microcontroller

ARM7TDMI core, 16-bit/32-bit RISC architecture

JTAG port supports code download and debug

Clocking options

Trimmed on-chip oscillator ($\pm 3\%$)

External watch crystal

External clock source up to 44 MHz

41.78 MHz PLL with programmable divider

Refer to data sheet for additional features.

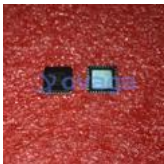
Application

Industrial control and automation systems

Smart sensors, precision instrumentation

Base station systems, optical networking

Related Products



[ADUC7022BCPZ62](#)

Analog Devices, Inc
LFCSP-40



[ADUC7020BCPZ62](#)

Analog Devices, Inc
LFCSP-40



[ADUC841BSZ62-5](#)

Analog Devices, Inc
QFP-52



[ADUC841BSZ62-3](#)

Analog Devices, Inc
QFP-52



[ADUC831BSZ](#)

Analog Devices, Inc
QFP-52



[ADSP-BF527BBCZ-5A](#)

Analog Devices, Inc
BGA-208



[ADSP-21369BBPZ-2A](#)

Analog Devices, Inc

SBGA-256



[ADSP-BF561SBBCZ-5A](#)

Analog Devices, Inc

CSPBGA-256