ADUC7020BCPZ62

Data Sheet

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

Manufacturers	Analog Devices, Inc
Package/Case	LFCSP-40
Product Type	Embedded Processors & Controllers
RoHS	Green
Lifecycle	

Images are for reference only

Please submit RFQ for ADUC7020BCPZ62 or Email to us: 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 highperformance multichannel ADCs, 16-bit/32-bit MCUs, andFlash®/EE memory on a single chip.

The ADC consists of up to 12 single-ended inputs. An additionalfour inputs are available but are multiplexed with the four DACoutput pins. The four DAC outputs are available only on certainmodels (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 amaximum of 16 ADC input channels. The ADC can operate insingle-ended or differential input mode. The ADC input voltageis 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 voltageoutput DACs are available on-chip. The DAC output range isprogrammable to one of three voltage ranges.

The devices operate from an on-chip oscillator and a PLLgenerating an internal high frequency clock of 41.78 MHz(UCLK). This clock is routed through a programmable clockdivider from which the MCU core clock operating frequencyis generated. The microcontroller core is an ARM7TDMI®, 16-bit/32-bit RISC machine, which offers up to 41 MIPS peakperformance. Eight kilobytes of SRAM and 62 kilobytes ofnonvolatile Flash/EE memory are provided on-chip. TheARM7TDMI core views all memory and registers as a singlelinear array.

On-chip factory firmware supports in-circuit serial downloadvia the UART or I2C serial interface port; nonintrusive emulationis also supported via the JTAG interface. These features areincorporated into a low cost QuickStart™ development systemsupporting this MicroConverter® family.

The parts operate from 2.7 V to 3.6 V and are specified over anindustrial temperature range of −40°C to +125°C. Whenoperating at 41.78 MHz, the power dissipation is typically120 mW. The ADuC7019/ADuC7020/ADuC7021/ ADuC7022/ADuC7024/ADuC7025/ADuC7026/ADuC7027/ADuC7028/ ADuC7029 areavailable in a variety of memory models and packages (seeOrdering Guide).

Features

Analog I/O

Multichannel, 12-bit, 1 MSPS ADCUp 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 (±3°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 (±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

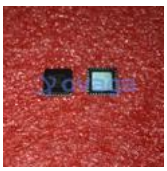
Application

Industrial control and automation systems

Smart sensors, precision instrumentation

Base station systems, optical networking

Related Products



[ADUC7022BCPZ62](#)

Analog Devices, Inc

LFCSP-40

[ADUC841BSZ62-5](#)

Analog Devices, Inc

QFP-52

[ADUC841BSZ62-3](#)

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QFP-52

[ADSP-BF527BBCZ-5A]

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BGA-208

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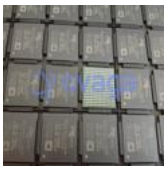
SBGA-256



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CSPBGA-256

[ADSP-BF531SBSTZ400]

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LQFP176