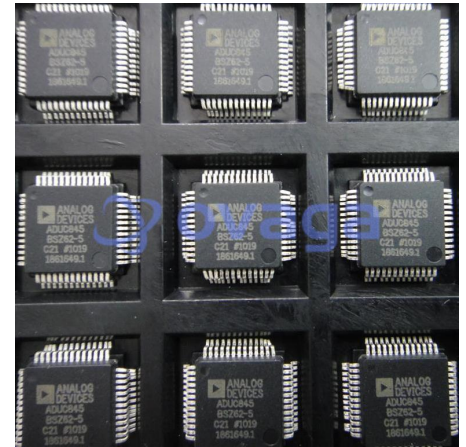8 Bit MCU, MicroConverter with ADC, ADUC Family ADUC8 Series Microcontrollers, 12.58 MHz, 62 KB

Manufacturers	Analog Devices, Inc
Package/Case	QFP-52
Product Type	Embedded Processors & Controllers
RoHS	Green
Lifecycle	

Images are for reference only

Please submit RFQ for ADUC845BSZ62-5 or Email to us: sales@ovaga.com We will contact you in 12 hours.   RFQ

General Description

The ADuC845, ADuC847, and ADuC848 are single-cycle,12.58 MIPs, 8052 core upgrades to the ADuC834 andADuC836. They include additional analog inputs forapplications requiring more ADC channels.

The ADuC845, ADuC847, and ADuC848 are complete smarttransducer front ends. The family integrates high resolutionΣ-Δ ADCs with flexible, up to 10-channel, input multiplexing, afast 8-bit MCU, and program and data Flash/EE memory on asingle chip.

The ADuC845 includes two (primary and auxiliary) 24-bit Σ-ΔADCs with internal buffering and PGA on the primary ADC.The ADuC847 includes the same primary ADC as the ADuC845(auxiliary ADC removed). The ADuC848 is a 16-bit ADCversion of the ADuC847.

The ADCs incorporate flexible input multiplexing, a temperaturesensor (ADuC845 only), and a PGA (primary ADC only)allowing direct measurement of low-level signals. The ADCsinclude on-chip digital filtering and programmable output datarates that are intended for measuring wide dynamic range andlow frequency signals, such as those in weigh scale, strain gage,pressure transducer, or temperature measurement applications.

The devices operate from a 32 kHz crystal with an on-chip PLLgenerating a high frequency clock of 12.58 MHz. This clock isrouted through a programmable clock divider from which theMCU core clock operating frequency is generated. The microcontrollercore is an optimized single-cycle 8052 offering up to12.58 MIPs performance while maintaining 8051 instruction setcompatibility.

The available nonvolatile Flash/EE program memory optionsare 62 kbytes, 32 kbytes, and 8 kbytes. 4 kbytes of nonvolatileFlash/EE data memory and 2304 bytes of data RAM are alsoprovided on-chip. The program memory can be configured asdata memory to give up to 60 kbytes of NV data memory indata logging applications.

On-chip factory firmware supports in-circuit serial downloadand debug modes (via UART), as well as single-pin emulationmode via the EA pin. The ADuC845, ADuC847, and ADuC848are supported by the QuickStart™ development system featuringlow cost software and hardware development tools.

Features

High resolution Σ-Δ ADCs

2 independent 24-bit ADCs

Up to 10 ADC input channels on all devices

24-bit no missing codes

22-bit rms (19.5 bit p-p) effective resolution

Offset drift 10 nV/°C, gain drift 0.5 ppm/°C chop enabled

Memory

62-kbyte on-chip Flash/EE program memory

4-kbyte on-chip Flash/EE data memory

Flash/EE, 100-year retention, 100 kcycle endurance

3 levels of Flash/EE program memory security

In-circuit serial download (no external hardware)

High speed user download (5 sec)

2304 bytes on-chip data RAM

See data sheet for additional features

Application

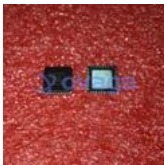Multichannel sensor monitoring

Industrial/environmental instrumentation

Weigh scales, pressure sensors, temperature monitoring

Portable instrumentation, battery-powered systems

Data logging, precision system monitoring

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