ADUC831BSZ

Data Sheet

8 Bit MCU, MicroConverter with ADC, ADUC Family ADUC8 Series Microcontrollers, 16 MHz, 62 KB, 2 KB

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

Images are for reference only

Please submit RFQ for ADUC831BSZ or Email to us: sales@ovaga.com We will contact you in 12 hours. RFQ

General Description

The ADuC831 is a fully integrated 247 kSPS data acquisitionsystem incorporating a high performance self-calibrating multi-channel12-bit ADC, dual 12-bit DACs, and programmable8-bit MCU on a single chip.

The microcontroller core is an 8052, and therefore 8051-instruction-set compatible with 12 core clock periods per machinecycle. 62 kBytes of nonvolatile Flash/EE program memory areprovided on-chip. Four kBytes of nonvolatile Flash/EE datamemory, 256 bytes RAM and 2 kBytes of extended RAM arealso integrated on-chip.

The ADuC831 also incorporates additional analog functionalitywith two 12-bit DACs, power supply monitor, and a band gapreference. On-chip digital peripherals include two 16-bit Σ-ΔDACs, dual output 16-bit PWM, watchdog timer, time intervalcounter, three timers/counters, Timer 3 for baud rate generationand serial I/O ports (I2C, SPI and UART).

On-chip factory firmware supports in-circuit serial download anddebug modes (via UART), as well as single-pin emulation modevia the EA pin. The ADuC831 is supported by QuickStart™ andQuickStart Plus development systems featuring low cost softwareand hardware development tools.

The part is specified for 3 V and 5 V operation over the extendedindustrial temperature range, and is available in a 52-lead plasticquad flatpack package and in a 56-lead chip scale package.

Features

ANALOG I/O

8-channel, 247 kSPS 12-bit ADCDC performance: ±1 LSB INLAC performance: 71 dB SNR

DMA controller for high speed ADC-to-RAM capture

2 12-Bit (monotonic) voltage output DACs

Dual output PWM/Σ-Δ DACs

On-chip temperature sensor function ±3C

On-chip voltage reference

Memory

62 kBytes on-chip Flash/EE program memory

4 kBytes on-chip Flash/EE data memory

Flash/EE, 100 yr retention, 100 kCycles endurance

2304 bytes on-chip data RAM

8051 based core

8051 compatible instruction set (16 MHz max)

12 interrupt sources, 2 priority levels

Dual data pointer

Extended 11-bit stack pointer

See data sheet for additional features

Application

Optical networking—laser power control

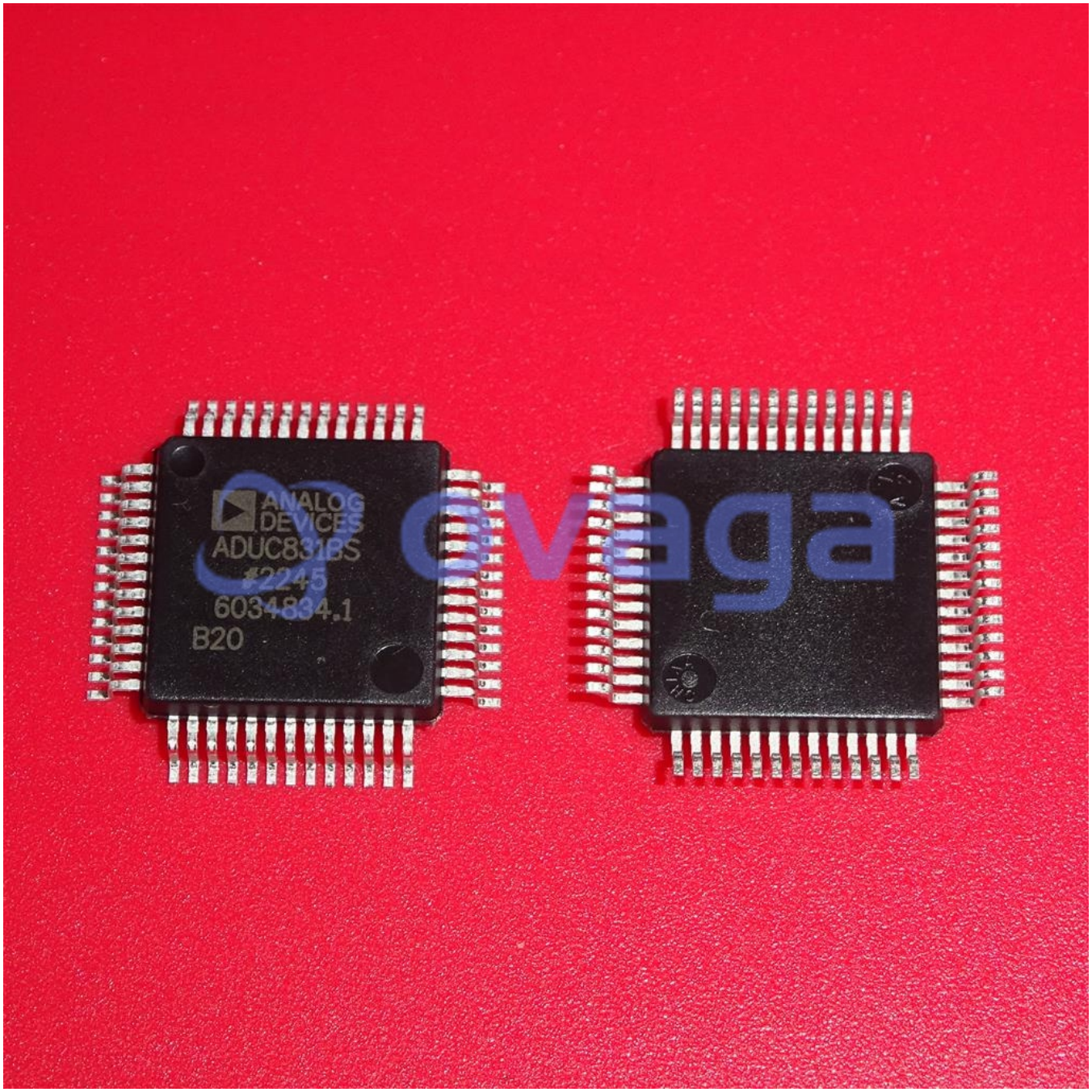
Base station systems

Precision instrumentation, smart sensors

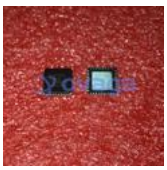
Transient capture systems

DAS and communications systems


ANALOG
DEVICES
ADUC831BS
#1737
1859131.1
B20



Related Products



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Analog Devices, Inc

LFCSP-40

[ADUC7020BCPZ62]

Analog Devices, Inc

LFCSP-40

[ADUC841BSZ62-5]

Analog Devices, Inc

QFP-52

[ADUC841BSZ62-3]

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QFP-52

[ADSP-BF527BBCZ-5A]

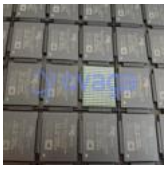
Analog Devices, Inc

BGA-208

[ADSP-21369BBPZ-2A]

Analog Devices, Inc

SBGA-256



[ADSP-BF561SBBCZ-5A]

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CSPBGA-256

[ADSP-BF531SBSTZ400]

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LQFP176