

ANALOG DEVICES ADUC832BSZ 8Bit Microcontroller, MicroConverter with ADC, ADuC8xx, 16.77MHz, 62KB, 2KB, 52Pins, LQFP

Manufacturers	<a href="#">Analog Devices, Inc</a>
Package/Case	QFP-52
Product Type	Embedded Processors & Controllers
RoHS	Green
Lifecycle	



Images are for reference only

Please submit RFQ for ADUC832BSZ or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

## General Description

The ADuC832 is a complete, smart transducer front end, integrating a high performance self-calibrating multichannel 12-bit ADC, dual 12-bit DACs, and programmable 8-bit MCU on a single chip.

The device operates from a 32 kHz crystal with an on-chip PLL, generating a high frequency clock of 16.78 MHz. This clock is, in turn, routed through a programmable clock divider from which the MCU core clock operating frequency is generated. The microcontroller core is an 8052 and is therefore 8051 instruction set compatible with 12 core clock periods per machine cycle. 62 kB of nonvolatile Flash/EE program memory are provided on chip. There are also 4 kB of nonvolatile Flash/EE data memory, 256 bytes of RAM, and 2 kB of extended RAM integrated on chip.

The ADuC832 also incorporates additional analog functionality with two 12-bit DACs, a power supply monitor, and a band gap reference. On-chip digital peripherals include two 16-bit  $\Sigma$ - $\Delta$  DACs, a dual-output 16-bit PWM, a watchdog timer, timeinterval counter, three timers/counters, Timer 3 for baud rate generation, and serial I/O ports (SPI, I2C®, and UART).

## Features

Analog I/O

8-channel, 247 kSPS, 12-Bit ADC DC performance:  
 $\pm 1$  LSB INL AC performance: 71 dB SNR

DMA controller for high speed ADC-to-RAM capture

2 12-bit (monotonic) voltage output DACs

Dual output PWM/ $\Sigma$ - $\Delta$  DACs

On-chip temperature sensor function:  $\pm 3^{\circ}\text{C}$

On-chip voltage reference

Memory

62 kB on-chip Flash/EE program memory

4 kB on-chip Flash/EE data memory

Flash/EE, 100 Yr retention, 100,000 cycles of  
endurance

2304 bytes on-chip data RAM

8051-based core

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

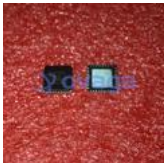
Upgrade to ADuC812 systems; runs from 32 kHz

External crystal with on-chip PLL.

Also available: ADuC831 pin-compatible upgrade to existing ADuC812 systems that  
require additional code or data memory; runs from 1 MHz to 16 MHz

External crystal

## Related Products



[ADUC7022BCPZ62](#)

Analog Devices, Inc  
LFCSP-40



[ADUC7020BCPZ62](#)

Analog Devices, Inc  
LFCSP-40



[ADUC841BSZ62-5](#)

Analog Devices, Inc  
QFP-52



[ADUC841BSZ62-3](#)

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[ADSP-BF527BBCZ-5A](#)

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BGA-208



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

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SBGA-256



[ADSP-BF561SBBCZ-5A](#)

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CSPBGA-256