

ADSP-21065L HIGH PERFORMANCE 32-bit DSP

SHARC® DSP Performance Now Available for \$10*

KEY FEATURES:

- \$10 per unit at 100,000 quantity
- 180 MFLOPS (32-bit floating-point)
- 180 MOPS (32-bit fixed-point)
- 16K* 32-bit Dual-ported on-chip memory (544 KBits configurable)
- 64M x 32-bit word external address space
- Glueless SDRAM interface
- 2 serial transmit/receive ports support 32-channel TDM
- I²S mode supports up to 8 channels
- Two timers with event capture and PWM options
- 12 programmable I/O pins
- 10 DMA channels
- Glueless multiprocessing with 2 ADSP-21065Ls
- ADSP-2106x SHARC Family binary code compatible
- 3.3 Volt, 208-pin PQFP

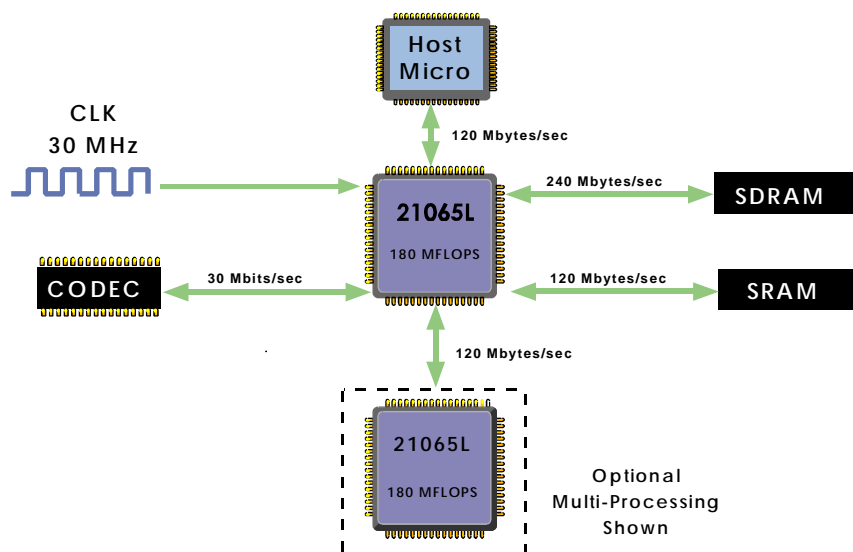
OVERVIEW:

The ADSP-21065L is the newest member in the SHARC® DSP family and it is the most powerful 32-bit DSP in its price range. The features of the ADSP-21065L are being offered at a price point typically seen in 16-bit and 24-bit general purpose DSPs. And, at 180 million operations per second, it increases SHARC family performance 25 to 50%.

The ADSP-21065L is a general purpose, programmable 32-bit DSP that allows users to program with equal efficiency in both fixed-point or floating-point arithmetic. This programming flexibility combined with

the high performance core and integrated peripherals makes the ADSP-21065L an outstanding price/performance value for a broad base of consumer, communications, automotive, industrial and computer applications.

The ADSP-21065L is code compatible with ADI's SHARC DSP family and as such customers have immediate access to software and hardware development tools from ADI and SHARC third parties.



SHARC DSPs provide superior system performance to a wide range of real-time, embedded applications. The ADSP-21065L uses multiple buses to create high-speed thoroughfares between the core, I/O peripherals, internal dual-ported memory and external synchronous DRAM.

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*US dollars based on 100,000-unit quantities

ADSP-21065L TARGET MARKETS:

The newest SHARC DSP brings 32-bit DSP performance within reach of many mainstream applications.

COMMUNICATIONS:

Computer Telephony, Multifunction Desk-phones, GPS (Global Positioning Satellite), Speech Recognition, Video Phones, Voice and Data Infrastructure Equipment.

DIGITAL AUDIO:

Digital Amplifiers, Keyboards, Digital Speakers, Synthesizers, Professional Audio Mixing Consoles, Digital Equalization and Effects Processing.

AUTOMOTIVE:

Keyless Entry Using Voice Analysis/Recognition, and In-cabin Multi-Function Platforms Integrating GPS, Hands-free Cellular, and Digital Surround Audio.

INDUSTRIAL & MEDICAL:

Bar-Code Scanners, Factory Automation Systems, Electronic Metering, Imaging, ECG, and Ultrasound Equipment.

INSTRUMENTATION:

Digital Oscilloscopes, Spectrum Analyzers, Network Analyzers and Test Equipment.

BIOMETRICS:

Fingerprint Recognition and Speaker Identification.

ADSP-21065L SHARC DSP BENEFITS

Features	Benefits
32-bit processing	<ul style="list-style-type: none"> • 32-bit words essential for processing 20- and 24-bit input signals • Improved signal-to-noise ratio at low levels • Wide dynamic range
Fixed- and floating-point on one chip	<ul style="list-style-type: none"> • Greater flexibility • Reduced development time
60 MIPS, 180 MFLOPS	<ul style="list-style-type: none"> • More processing implemented with a single chip • Eliminates bottlenecks
16K* 32 bit (544 Kbits) of user-configurable on-chip memory	<ul style="list-style-type: none"> • Reduces off-chip memory access bottlenecks • Reduces overall system cost, size, and power consumption • Allows freedom in allocating data and program memory
Feature-rich I/O: <ul style="list-style-type: none"> • 2 serial Tx and Rx ports • I²S Interface • TDM Interface • 10 DMA Channels 	<ul style="list-style-type: none"> • Process more audio channels using just one DSP • Multiple channels supported in communications systems • Direct interface to T1/E1 lines
Glueless 32-bit SDRAM Interface	<ul style="list-style-type: none"> • Maximize synchronous data transfer rate • Reduce overall system cost
240 Mbytes/second external port	<ul style="list-style-type: none"> • Maximum data throughput
Non-intrusive DMA	<ul style="list-style-type: none"> • Utilize full capabilities of core processor

DSP SUPPORT:

Email:

In the U.S.A.: dsp.support@analog.com

In Europe: dsp.europe@analog.com

Fax: In the U.S.A.: 1 781 461-3010

In Europe: +49-89-76903-307

Web Address: <http://www.analog.com/dsp>

WORLDWIDE HEADQUARTERS

One Technology Way P.O. Box 9106

Norwood, MA 02062-9106, U.S.A.

Tel: 1 781 329 4700

(1 800 262 5643 U.S.A. only)

Fax: 1 781 326 8703

World Wide Web Site: <http://www.analog.com>

EUROPE HEADQUARTERS

Am Westpark 1-3

81373 München, Germany

Tel: +879 76903-0; Fax +89 76903-157

JAPAN HEADQUARTERS

New Pier Takeshiba, South Tower Building

1-16-1 Kaigan, Minato-ku, Tokyo 105, Japan

Tel: +3 5402 8210; Fax: +3 5402 1063

SOUTHEAST ASIA HEADQUARTERS

2102 Nat West Tower, Times Square

One Matheson Street

Causeway Bay, Hong Kong

Tel: +2 506 9336; Fax: +2 506 4755

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