ADSP-21489KSWZ-4A

Data Sheet

Digital Signal Processors & Controllers - DSP, DSC 400MHz 100ld LQFP SHARC

Manufacturers	Analog Devices, Inc
Package/Case	LQFP-100
Product Type	Digital Signal Processors & Controllers - DSP, DSC
RoHS	Rohs
Lifecycle	

Images are for reference only

Please submit RFQ for ADSP-21489KSWZ-4A or Email to us: sales@ovaga.com We will contact you in 12 hours. RFQ

General Description

The SHARC ADSP-21489 is one of two new members of the fourth generation of SHARC® Processors that now includes the ADSP-21483, ADSP-21486, ADSP-21487, ADSP-21488, ADSP-21489 and offers increased performance, hardware-based filter accelerators, audio and application-focused peripherals, and new memory configurations capable of supporting the latest surround-sound decoder algorithms. All devices are pin-compatible with each other and completely code-compatible with all prior SHARC Processors. These newest members of the fourth generation SHARC Processor family are based on a single-instruction, multiple-data (SIMD) core, which supports both 32-bit fixed-point and 32-/40-bit floating-point arithmetic formats making them particularly suitable for high-performance audio applications.

The ADSP-21489 offers the highest performance–450 MHz/2700 MFLOPs–in an LQFP package within the fourth generation SHARC Processor family. This level of performance makes the ADSP-21489 particularly well suited to address the automotive audio and industrial control segments. In addition to its high core performance, the ADSP-21489 includes additional processing blocks such as FIR, IIR, and FFT accelerators to increase the total performance of the system. There is a new feature called Variable Instruction Set Architecture (VISA) that allows the code size to be decreased by 20% to 30% and increase the memory size availability. The fourth generation DSP allows the ability to connect to external memory by providing a glueless interface to 16-bit wide SDR SDRAMs.

Fourth-generation SHARC Processors also integrate application-specific peripherals designed to simplify hardware design, minimize design risks, and ultimately reduce time to market. Grouped together, and broadly named the Digital Applications Interface (DAI), these functional blocks may be connected to each other or to external pins via the software-programmable Signal Routing Unit (SRU). The SRU is an innovative architectural feature that enables complete and flexible routing amongst DAI blocks. Peripherals connected through the SRU include but are not limited to serial ports, IDP, S/PDIF Tx/Rx, and an 8-Channel asynchronous sample rate converter block. The fourth generation SHARC allows data from the serial ports to be directly transferred to external memory by the DMA controller.Other peripherals such as SPI,UART and Two-Wire Interface are routed through a Digital Peripheral Interface (DPI).

Features

450 MHz core clock speed

5 Mbits of on-chip RAM

FIR, IIR, and FFT accelerators

16-bit wide SDR SDRAM external memory interface

Digital Applications Interface (DAI) enabling user-definable access to peripherals including an S/P DIF Tx/Rx, and 8-channel asynchronous sample rate converter

Fully enhanced DMA engine including scatter/gather DMA, delay line DMA

8 serial ports (SPORTs) supporting I2S, left-justified sample pair, DSP Serial and TDM modes

2 SPI-compatible ports supporting master and slave modes

UART and Two-Wire Interface

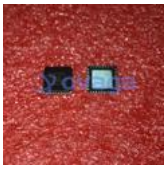
16 Pulse Width Modulation (PWM) channels

3 full-featured timers

176 ld LQFP EPAD, 100 ld LQFP EPAD and 88 ld LFCSP package options

Commercial and Industrial temperature ranges

Related Products



ADUC7022BCPZ62

Analog Devices, Inc

LFCSP-40

ADUC7020BCPZ62

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LFCSP-40

ADUC841BSZ62-5

Analog Devices, Inc

QFP-52

ADUC841BSZ62-3

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QFP-52

ADUC831BSZ

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QFP-52

ADSP-BF527BBCZ-5A

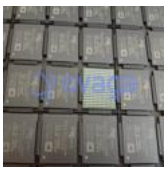
Analog Devices, Inc

BGA-208

ADSP-21369BBPZ-2A

Analog Devices, Inc

SBGA-256



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Analog Devices, Inc

CSPBGA-256