Blackfin ADSP-BF70x

Ultralow Power, Low Cost DSP Evaluation Platform ADSP-BF706 EZ-KIT Mini

Overview

Analog Devices has developed a low cost, low power DSP evaluation platform targeting an array of real-time applications. The ADSP-BF706 EZ-KIT Mini[®] leverages the latest entry within the industry-leading, low power Blackfin[®] processor family as well as ADI's optimized development tools and third party software deliverables—including innovative embedded audio design with Audio Weaver[®] from DSP Concepts. With on-board, high quality audio connectivity, multiple expansion options, and an integrated debug agent, the EZ-KIT Mini offers designers a complete small form factor, low cost starter platform for multiple applications.

The ADSP-BF706 Blackfin processor is a high performance DSP that delivers a class-leading 800 MMACS of processing power at less than 100 mW. With glueless connectivity options including USB and over 1 MB of internal SRAM, this reduces BOM cost and eliminates the need for external memory in many applications. Using the enhanced Blackfin+ core, the combination of performance, power efficiency, memory integration, sophisticated security, and great value, allows designers to incorporate advanced 16- and 32-bit processing into a wide range of new power sensitive use cases.

Target ADSP-BF70x applications include:

ABEALES ADSP-BF705

- Portable audio, DJ equipment, and effects
- Automotive audio and sensors
- Portable communications
- Military and aerospace
- Portable healthcare
- Intelligent lighting and occupancy detection*
- Industrial imaging and biometrics*
- * For an advanced imaging-based starter system, please refer to ADI's ADSP-BF707 BLIP Platform (*www.analog.com/BF70x*)



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Industry's Performance Leading Ultralow Power DSP Solution





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- ADSP-BF706 EZ-KIT Mini features:
 - ADSP-BF706 Blackfin Processor
 - 400 MHz/800 MMACs performance at <100 mW
 - 1160 kB on-chip SRAM (136 kB L1, 1 MB L2)
 - 88-lead LFCSP (QFN) package
 - Small form factor: 4 in imes 2 in (10 cm imes 5 cm)
 - 4 MB quad SPI flash

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- ADAU1761 SigmaDSP[®] low power stereo audio codec
 - · Line-in and headphone jacks
- Direct USB 2.0 HS PHY interface to ADSP-BF706
- External connections for EPPIO, SPORT, SPI, I²C, timer, and GPIOs
- On-board debug agent (JTAG/SWD) via separate USB interface
- Other features
 - USB bus powered
 - Push buttons and LEDs
 - · Boot mode strapped to SPI master
 - · Resistors for processor current measurement
- Arduino Uno R3 connection compatibility
- CrossCore[®] embedded studio software tools
 - Full featured development suite and board support package
 - Complete real-time debug capability included
 - Full featured one year evaluation license
- Complete code examples and demos including:
 - Audio processing from DSP Concepts (www.dspconcepts.com)
 - Vision algorithms from EBSYS (www.ebsys-tech.com)



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Embedded Audio Design with Audio Weaver



Features include:

- Drag and drop user interface
- Full featured audio module library
- Efficient code generation
- MIPs and memory profiling
- Real-time tuning and control via USB interface

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