产品概览

LC823450: 低功耗和高分辨率音频处理片上系统 (SoC)

欲看完整文档，请参阅数据表。

LC823450 是一款超低功耗、32 位、192 kHz 高分辨率音频处理片上系统 (SoC)。它由双 ARM Cortex-M3、32 位 DSP (LPDSP32) 芯、硬接线 MP3 编码器/解码器和集成的 SRAM 组成。它还配备了模拟外围功能，如 PLL、D 级立体声大功率放大器、6 波段均衡器和 ADC/DAC。我们的专属 LPDSP32 支持 MP3、WMA、AAC 和带 VBR 的 PCM 的噪音/回音抑制和播放速度控制功能。LC823450 具有微调电源管理和专门的硬接线音频装置，提供了更长的电池寿命，而不会降低音频质量，适用于录音机和可佩戴音频应用。

特性

- ARM® Cortex®-M3 Dual Core
- I2S I/F with 16/24/32-bit, MAX 192 kHz (2-ch x 2) audio functions with 16/24/32-bit, MAX 192 kHz
- Various original DSP codes for audio processing: MP3 codec, FLAC codec, Noise Cancel, Variable speed playback, etc.
- Internal SRAM (1656K byte) for ARM® Cortex®-M3 Dual Core and original DSP
- Hard wired audio functions:MP3 encoder and decoderEQ (6-band equalizer)ASRC (Asynchronous Sample Rate Converter)
- Integrated analog functions:low-power Class D HP amplifierSystem PLLdedicated audio PLL, ADC
- Various interfaces:USB2.0 HS device / host (not OTG)eMMCSD cardSPI, I2C
- Oscillation controller to dynamically switch clock frequency
- ARM® Cortex®-M3 Dual Core and original DSP clock max frequency:160 MHz @1.2 V100 MHz @1.0 V
- 32-bit fixed point, dual-MAC original DSP optimized for audio processing

  For more features, see the data sheet

优势

- Dual Core and DSP enables parallel processing.
- High-Resolution Audio processing capability with 32-bit 192 kHz
- Possible to reduce DSP codes development cost.Several DSP codes are available with no additional fee such as Noise cancel, Variable speed playback, etc.
- Large scale program can be implemented by large capacity memory.
- Low power audio processing by hard wired audio functions(Reference: 4 mA @128K bps, 44.1 kHz MP3 hardware playback)
- PCB space and cost is reduced by Integrated analog functions.
- Various functions (SBC/AAC codec with the DSP, UART, ASRC) contribute to Bluetooth®audio.
- Switching clock frequency by oscillation controller reduces unnecessary power consumption.
- High processing capability with higher clock frequency.

应用

- Audio Processing for Potable Audio
- Audio Processing for Wireless Audio
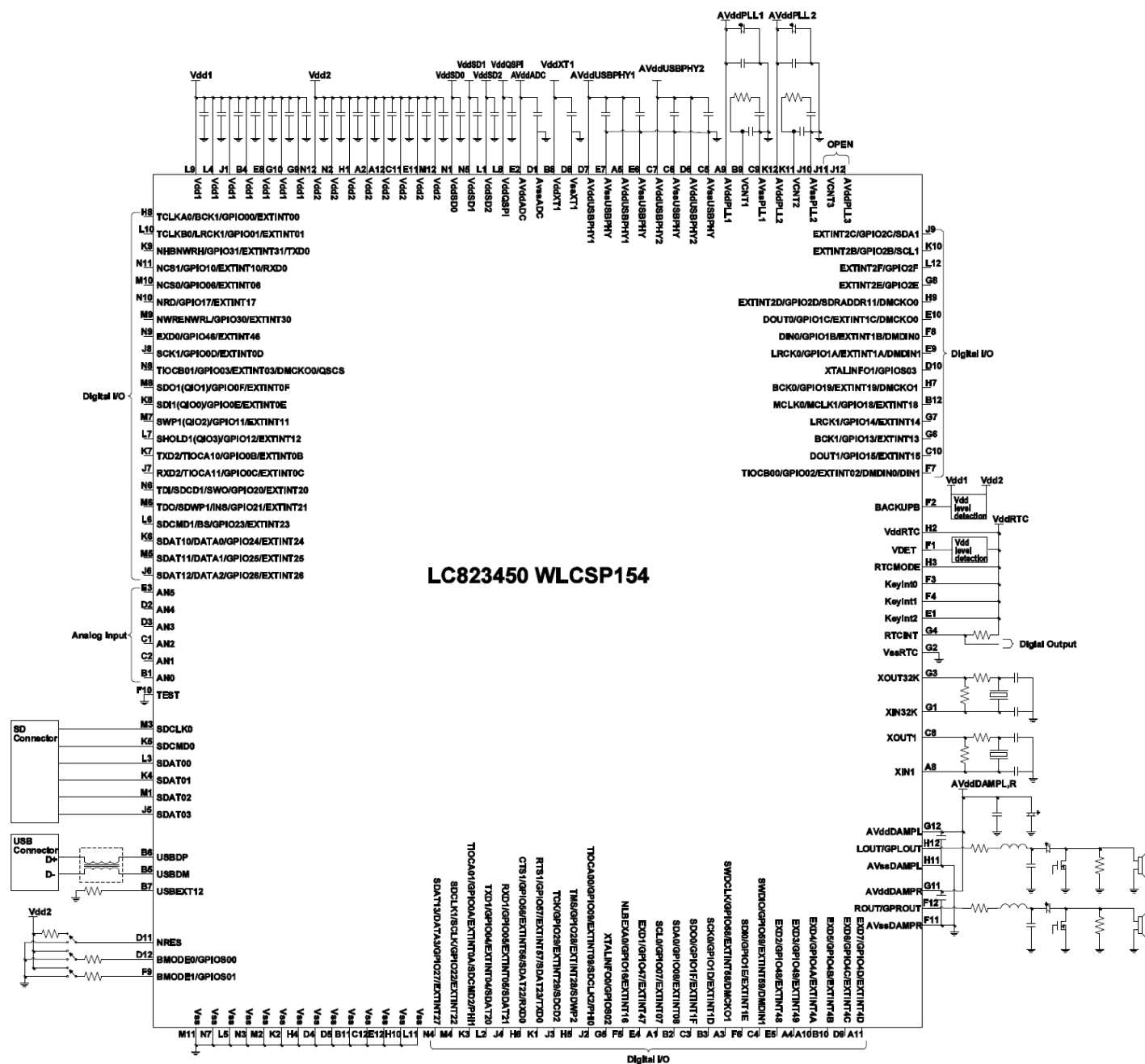- Audio Processing for High-Resolution Audio

终端产品

- IC Recorders
- Wireless headsets
- Other porable audio devices
- High Resolution Audio players
- Wireless speakers

器件电气规格

产品	Pricing ($/Unit)	Compliance	Status	DSP Core (bits)	Coprocessor Type	MIPS	Dynamic Range (dB)	RAM (kB)	$I_{standby}$ Typ (µA)	Audio Inputs	Audio Outputs	Package Type
LC823450RAH-2H	10.5997	Pb-free Halide free	Active	32	-	160	-	1656	-	2	2	LFBGA240 11x11, 0.65P
LC823450TA-2H	10.6664	Pb-free Halide free	Active	32	-	160	-	1656	-	2	2	TQFP-128 / TQFP-128L
LC823450XCTBG	11.1197	Pb-free Halide free	Active	32	-	160	-	1656	-	2	2	WLCSP-154
LC823450XDTBG	11.1197	Pb-free Halide free	Active	32	-	160	-	1656	-	2	2	WLCSP-154

应用框图

LC823450 WLCSP154

欲了解更多信息，请联系您当地的销售支援 www.onsemi.cn 。
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