

Short Information

MAS 3587F**MPEG 1/2 Layer 3 Encoder/Decoder** (PLQFP64 or LFBGA81 Package)

The MAS 3587F is a single-chip MPEG layer 3 audio encoder/decoder designed for use in portable memory-based recording/playback applications. The MAS 3587F contains the DSP engine with embedded RAM and ROM. It provides flexible digital interfaces for serial and SP/DIF audio data input and output. The MAS 3587F integrates power management functions and two DC/DC converters for single cell power supply. A high-quality stereo digital-to-analog converter and a stereo analog-to-digital converter on chip provide the analog functions required in an advanced portable audio recorder.

Features:

- Single-chip MPEG 1/2 Layer 3 audio encoder/decoder
- MPEG 1/2 Layer 3 encoding at various sample frequencies
- Encoding with adaptive bit rates (variable bit-rate)
- ISO compliant MPEG 1/2 Layer 2/3 decoder
- Integrated high-quality D/A converters
- Integrated A/D converters
- Microphone amplifier
- Flexible interfaces: SP/DIF, serial, parallel, I²C
- All clocks generated on-chip
- Audio features: volume, mute, bass, treble, automatic gain control
- Power management functions, built-in DC/DC converters, low power consumption
- Status, ancillary information accessible via I²C

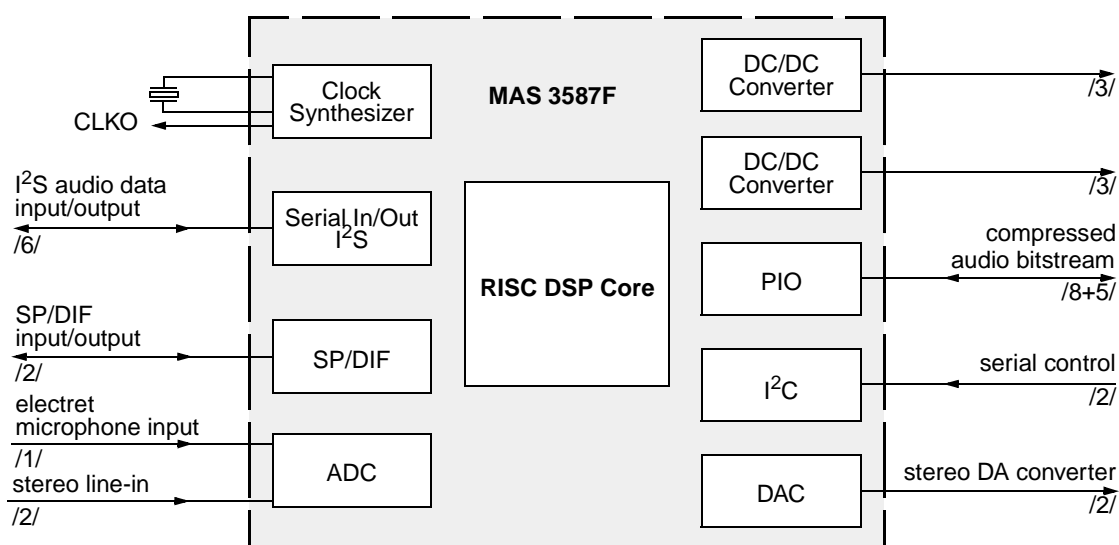


Fig. 1: Block diagram of the MAS 3587F

Short Information

Application Overview

Fig. 2 shows a typical portable audio recorder application. The main function of the MAS 3587F is the compression and decompression of audio signals. The IC also provides all analog functions required in a portable recorder. The high-quality D/A converters are connected directly to the headphones. The built-in microphone amplifier or stereo A/D converter are used for recording. The MAS 3587F also provides clock generation, power management, and two adjustable DC/DC converters that enable the entire recorder to be run on a single cell battery. The flexible interfaces of the MAS 3587F allow direct connection of the Flash memory data port to the MAS 3587F parallel IO port, so that the compressed data transfer requires minimal controller support.

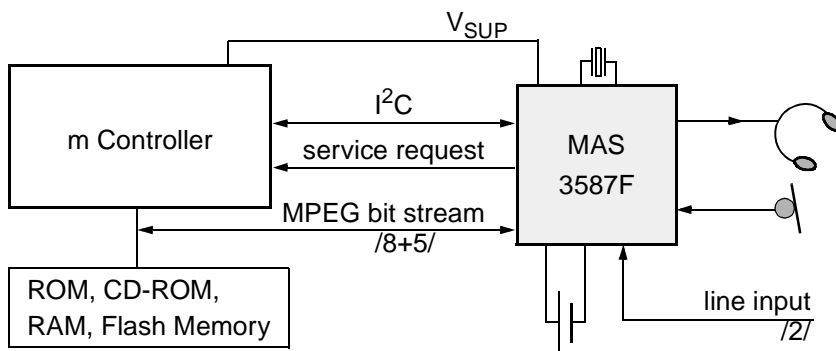


Fig. 2: Portable audio recorder application



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