VS10XX Main Differences v1.10 2025-04-03

IC	VS1011E	VS1003B	VS1053B	VS1063A	VS1073A
Package	SOIC-28 LQFP-48	LQFP-48	LQFP-48	LQFP-48	LQFP-48
Power supplies	2	3	3	3	3
Suggested voltages	DVDD = 3.3V AVDD = 3.3V	IOVDD = 2.8V AVDD = 2.8V CVDD = 2.5V *)	IOVDD = 3.3V AVDD = 3.3V CVDD = 1.8V	IOVDD = 3.3V AVDD = 3.3V CVDD = 1.8V	IOVDD = 3.3V AVDD = 3.3V CVDD = 1.25V
Recommended XTALI	12.288 MHz / 24.576 MHz	12.288 MHz	12.288 MHz	12.288 MHz	12.288 MHz
Decoders in ROM	MP3, MP2, MP1, WAV	MP3, WAV, WMA, Midi	MP3, MP2, MP1, WAV, WMA, Ogg Vorbis, AAC, Midi	MP3, MP2, WAV, WMA, Ogg Vorbis, AAC, FLAC	MP3, MP2, MP1, WAV, WMA, Ogg Vorbis, AAC, FLAC, ALAC, Ape, AC-3, AIFF, DSD, Opus
Decoders from loadable patches	-	-	FLAC	ALAC	-
ADC	-	Mono line / Mono mic	Stereo line / Mono mic	Stereo line / Mono mic	Stereo line / Mono mic
Encoders in ROM	-	ADPCM	ADPCM, PCM	ADPCM, PCM, Ogg Vorbis, MP3, g.711, g.722	ADPCM, PCM, Ogg Vorbis, MP3, g.711, g.722, FLAC
GPIO pins	2...4	2...4	6...8, 4 can be 16-bit I2S output	6...8, 4 can be 16-bit I2S output	6...8, 4 can be 16/32-bit I2S output

***) While VS1003b can run from a single 2.8V power supply, using a separate CVDD regulator is highly recommended. With it you can populate the board with a different CVDD regulator and VS1053/63/73 or future IC that uses the same pinout (but newer technology).**

Use a 12.288MHz crystal, the LQFP-48 pinout from the VS1073a datasheet, and a separate CVDD regulator for your design to be future-proof in hardware.

Microcontroller software generally needs at least small changes when changing between VS10XX ICs, particularly if you want to use advanced features or loadable code. New features are available through patches, plugins, and applications that are loaded to the RAM memory after each reset. These are IC-dependent.

Migration guides between specific VS10XX ICs can be downloaded from:
https://www.vlsi.fi/en/support/applicationnotes.html

Our IC datasheets can be downloaded from:
https://www.vlsi.fi/en/support/download.html

VS10xx patches, plugins, and applications are available from:
https://www.vlsi.fi/en/support/software.html