

Voice Guidance LSI

Overview

The S1V3S344 is an LSI incorporating built-in flash memory for voice data and featuring pin compatibility with existing S1V3034x Series devices*. It features high-compression, high-quality audio decoding functions, built-in voice data flash memory, and a DA converter, making it ideal for use in voice guidance products. The voice data creation tool for EPSON voice guidance LSI allows easy creation of high-quality voice data without the need for studio recording. All functions are controlled by commands via a serial interface for easy addition to any existing system incorporating a host.

* External parts differ from S1V3034x Series devices.

■ Features

Audio playback

- High-compression, high-quality audio decoder (proprietary Epson data format)
- Bitrate: 40 kbps, 32 kbps, 24 kbps, 16 kbps
- Sampling rate: 16 kHz

Sequencer function (phrase interval setting)

- Sequence setting for up to 64 phrases (unlimited combinations)
- Variable phrase interval delay setting: 0 ms or 20 ms to 2,047 ms (in 1 ms steps)

Voice data built-in flash memory*1

- Incorporates the following memory for voice data
 - 512 kbytes (approx. 4 minutes/16 kbps)
 - Erase/write cycles: 10,000 cycles (typ.)

1,000 cycles (min)

Data retention: 10 years (min)

Host interface

- Clock synchronized serial interface, supporting UART and I2C
- Command control

High-quality 16-bit DA converter

- Sampling rate (f_s): 16 kHz
- Input bits: 16 bits

Clock

- Clock input: 32.768 kHz or 12.288 MHz
- Crystal oscillator: 32.768 kHz

Package

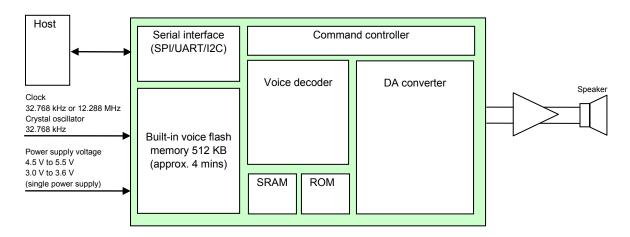
QFP-52pin (10 mm × 10 mm) 0.65 mm pin pitch

- Power supply voltage
 5.0 V ±0.5 V (single power supply)
- 3.3 V ±0.3 V (single power supply)

■ Standard application system

The S1V3S344 standard application system is configured as shown in the diagram below. The S1V3S344 is command-controlled by the host using a messaging protocol via the serial interface.

Controlled by commands sent from the host via the serial interface after power-on resetting, the S1V3S344 outputs voice audio while internally decoding and processing internal or streamed (via host command transfer) compressed audio data.



S1V3S344

■ Development Tools

- Evaluation board
- Voice data creation tool
- Sample programs

[Voice data creation tool overview]

- ·Supported languages: English, Japanese, Korean (all female voices)
- *1 The flash memory technology used in this product is used under license of Silicon Storage Technology, Inc. in the USA.

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