EPSON
EXCEED YOUR VISION

S1V30080

♪Melody Synthesizer♪ function included Voice Guidance LSI

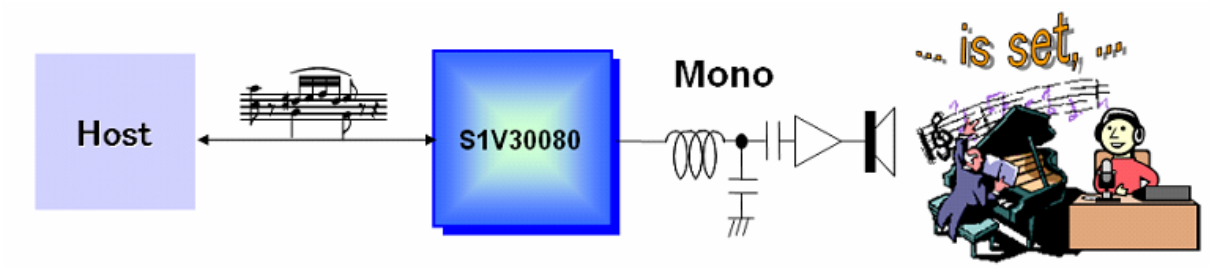
■ Outline

S1V30080 supports multi-channel Speech/Sound playback from integrated ROM, Moreover Melody Synthesizer function is supported which is suitable for music effect and buzzer sound by tiny data with Speech/Sound playback. Speech/Sound playback and melody synthesizer function works individually and can be mixed, of course the volume can be set individually.

The voice data creation tool for EPSON voice guidance LSI allows easy creation of high-quality voice data from text data without studio recording.

S1V30080 is controlled over the serial interface allowing control from a wide range of hosts easily from the host and also S1V30080 supports standalone mode which enable to control without CPU or without host S/W on CPU.

S1V30080 makes it possible to realize time-to-market for the products featuring Voice Guidance.



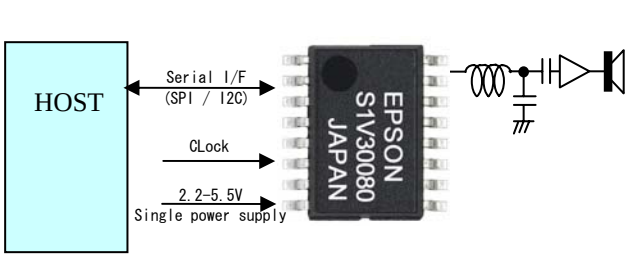
■ Features

- **Melody/Buzzer/Tone sound synthesizer function**
  - 5-ch Melody Sound can be created just by music note information(5 octave supported)
  - Buzzer/Tone Sound can be generated just by specifying the frequency(5ch supported)
- **Speech/Sound Playback**
  - Individual 2ch Voice ROM data can be played.(EPSON original format)
  - Sampling Frequency : 4, 8, 12 and 16 kHz
- **Sequencer function (to set delay between phrases)**
  - A maximum of 127 files can be sequenced with one configuration message (no constraints on phrase combinations)
  - Delay setting can be set between phrases: 0-1000ms (10ms step)
- **Mixing Function**
  - Synthesizer Sound and Speech/Sound Playback from ROM can be mixed(individual volume setting possible)
- **Speech/Sound ROM**
  - fs:8kHz approx 30 sec, fs:16kHz approx 15sec
- **Host Interface**
  - Synchronous serial interface (SPI, I2C) … [Command Control base]
- **Standalone mode**
  - By just specifying the ruled number, the sound can be played from ROM and Melody Synthesizer.
- **DA Converter integrated**
- **Clock(Crystal oscillation, Ceramic oscillation, Clock input**
  - fs:8kHz 8.192MHz, fs:16kHz 16.384MHz
- **Power Supply voltage**
  - 2.2-5.5V Single Power Supply
- **Product Configuration**

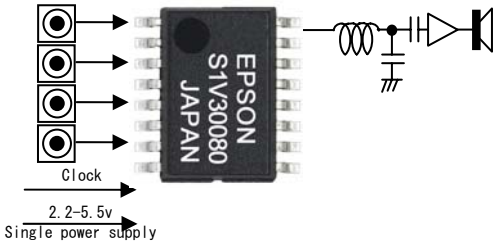
Product code	System clock source	External Serial Flash Memory	Package
S1V30080M00**00	External clock	-	SSOP2-16(4.4mm x 6.6mm, 0.8mm pin pitch)
S1V30080M01**00	crystal unit	-	SSOP2-16(4.4mm x 6.6mm, 0.8mm pin pitch)
S1V30080F00**00	External clock	support	QFP12-48 (7mm x 7mm, 0.5mm pin pitch)
S1V30080F10**00	External clock	support	QFP13-52 (10mm x 10mm, 0.65mm pin pitch)
S1V30080F11**00	crystal unit	-	QFP13-52 (10mm x 10mm, 0.65mm pin pitch)

■ Standard Application System

The S1V30080 standard application system will have the following configuration. The host processor will control the S1V30080 device by commands sent via the serial interface (the message protocol).
In addition, S1V30080 supports standalone mode which enable to control without CPU or without host S/W on CPU.



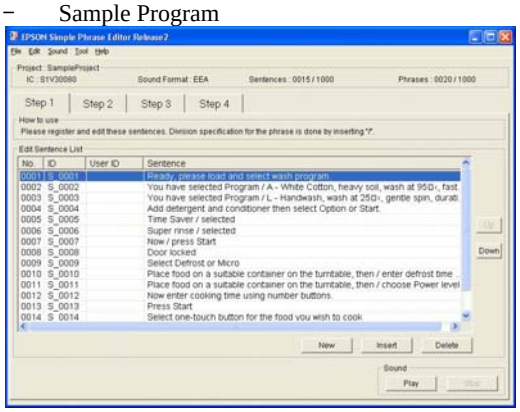
Serial Interface Mode



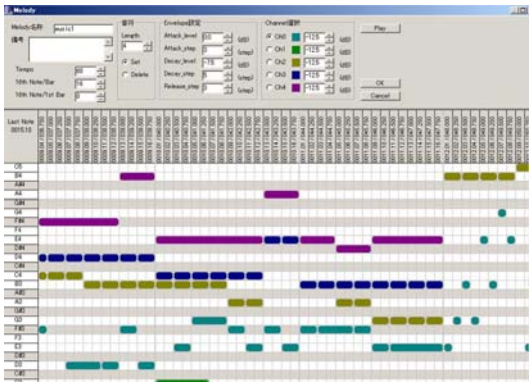
Standalone Mode

■ Development Tools

- Evaluation Board
- Voice Data Creation Tool*(Supported languages: English, Japanese, Korean (all female voices), under development: Spanish, Chinese)
- Melody/Buzzer/Tone Synthesizer Creation Tool
- Sample Program



Voice Data Creation Tool(PC software tool)



Melody/Buzzer/Tone Synthesizer Creation Tool(PC software tool)

* The voice synthesis technology “VoiceText” of PENTAX is used for audio data creation tool. “VoiceText” is a registered trademark of Voiceware Co., Ltd.
Other company name and brand name that has been described are the registered trademarks or trademarks.

SEIKO EPSON CORPORATION

SEMICONDUCTOR OPERATIONS DIVISION

IC Sales Department
IC International Sales Group
421-8 Hino, Hino-shi, Tokyo 191-8501, JAPAN
Phone: +81-42-587-5814 FAX: +81-42-587-5117

■ EPSON Electronic devices Website

http://www.epson.jp/device/semicon_e/

Document code: 411698001
First issue February , 2009
Revised August, 2009 in Japan