ML2860

PRODUCT INTRODUCTION SHEET (Sep 5, 2002)

OKI

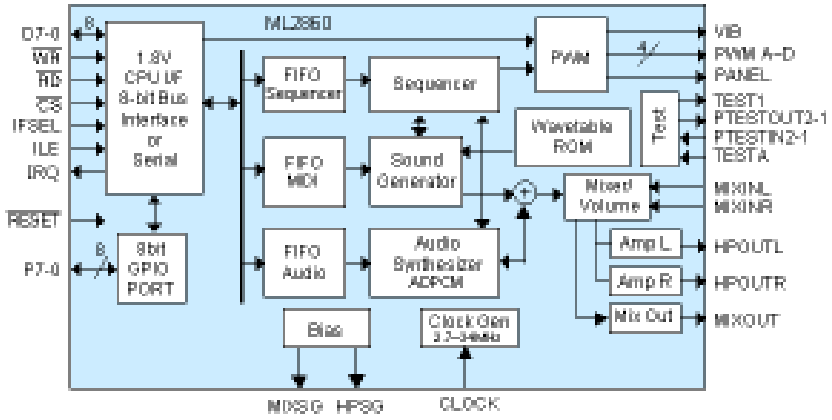
Oki, Network Solutions for a Global Society

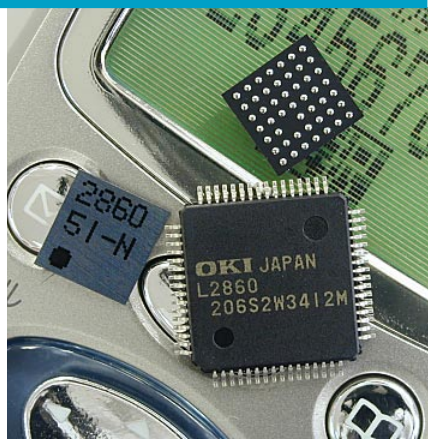
32 POLYPHONY, HIGH-GRADE PCM SOUND GENERATOR LSI

Description

ML2860 is a highly sophisticated PCM sound generator LSIs primarily, however not exclusively, designed for cell phones and PDAs It is also capable of playing ADPCM and PCM compressed speech and sound data. With an on-chip high-quality General MIDI sound set, the ML2860 plays 32 polyphonies simultaneously with 16 timbres. Using the on-chip three FIFOs which store musical score data, MIDI messages and ADPCM audio data, a fantastic music ringer subsystem can readily be built around this chip. Also provided are ports to drive a ringing vibrator, an LCD backlight and four PWM-driven LED outputs. CPU control is possible in either parallel or serial, while a comprehensive register structure allows easy programming. The chip contains an orchestra of musical instruments, a symphony on silicon, for modern cell phones and more.

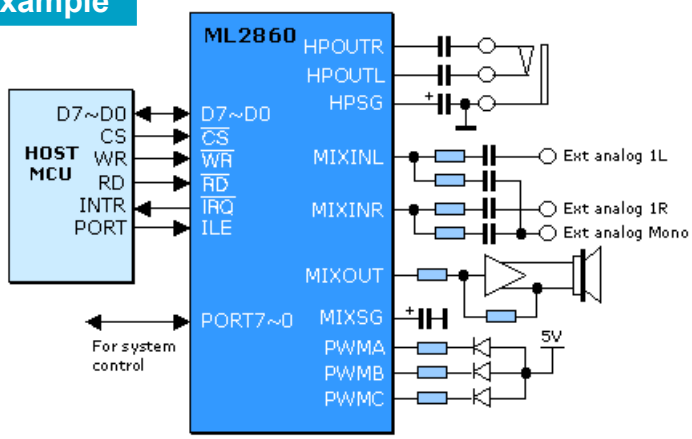
Block Schematic





Essential Features & Typical Application Example

- General MIDI 128 timbres + 47 percussion sounds
- **32 polyphonics** with 16 timbres
- Internal 2-bit/4-bit ADPCM2 Synthesizer (fs 4 to 8kHz)
- Embedded FIFOs:
  - For sequencer: 1024bit
  - For real-time melody playback: 128bit
  - For ADPCM: 4096bit
- 8-bit bus interface, SPI mode 0 selectable
- 8-bit general purpose I/O
- Melody playback synchronous with ADPCM
- Internal 2-channel earphone speaker amplifier
- Transpose / Tone change / Volume functions
- 2-channel, 14-bit DAC built-in
- Vibrator driver pin (open drain output 150mA max.)
- 7-bit PWM x 4 (open drain, max 10mA)
- LCD backlight driver (open drain, 100mA max.)
- Power supply: +2.7 to 3.3V
- Operating current: 60mA max.
- Standby current: 1µA typ., 10µA max. (25°C)
- Operating temperature: -20~+85°C
- Packaging options: 48-pin W-CSP (6.26 x 5.98mm) and 64-pin TQFP



Demonstration board wih MIDI input and stereo audio outputs available.

ML2860 and ML2861 are a joint development of Casio Computer Co., Ltd. and Oki Electric Industry Co., Ltd.
This is a product introduction, not the products' data sheet. Specification are subject to change without notice.
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