PRODUCT INFORMATION

Vol.99

On-Chip Flash Memory 4-Bit Microcontroller Developed for Small-Scale Applications

The industry's first 24-pin class device

LC65F1306A

Overview

Microcontrollers with on-chip flash memory (flash microcontrollers) can shorten the application product development period and allow mass production to be ramped up more quickly. Since they provide excellent maintainability and other features, they are, unquestionably, the optimal microcontrollers for contemporary electronic equipment, which is characterized by ever shortening product development cycles.

While Sanyo has put most of its efforts in taking advantage of the flash microcontroller into the 8-bit microcontroller area, Sanyo is committed to expanding the Sanyo product line of these extremely convenient flash microcontrollers. Now, Sanyo has developed and is releasing as the first product in the 4-bit flash microcontroller area, the LC65F1306A 24-pin microcontroller with on-chip flash memory.

This new product is appropriate for a wide range of applications, from replacing control circuits that were previously implemented in standard logic to home appliances. The provision of the Sanyo-developed SFW-2S on-board memory rewriting system allows the contents of the flash memory to be rewritten from a personal computer.

This device also incorporates a self-write function that allows it to freely rewrite parts of the flash memory area during normal operation. This allows the flash memory, which previously could only be used as a ROM memory area, to be used as a nonvolatile data RAM area, thus significantly increasing the range of application areas for this microcontroller. At the same time, Sanyo is also introducing four mask ROM versions of this microcontroller to form a product series. The mask ROM versions are the LC651301A, LC651302A, LC651304A, and LC651306A, which provide 1K, 2K, 4K, and 6K bytes of mask ROM, respectively.

Features

- The industry's first 4-bit flash microcontroller in the 24-pin class
- 6K bytes of on-chip flash memory
- 5 V single-voltage power supply
- Onboard rewrite function

• Supports rewriting of the on-chip flash memory in 128-byte units.

Specifications

• Sanyo 4-bit LC65 CPU core (0.92 µs instruction cycle time)
• Wide operating voltage range: 3.0 to 5.5 V
• 6K bytes of flash memory and 256 words of RAM
• Eight-input 8-bit A/D converter
• One 8-bit timer circuit
• Synchronous serial interface that supports both 4-bit and 8-bit transfers.
• Packages: DIP24S and MFP24S

Sample Availability

The LC65F1306A will be available in sample quantities in the middle of June 2000 and in production quantities in October 2000.

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