TMP86FS49
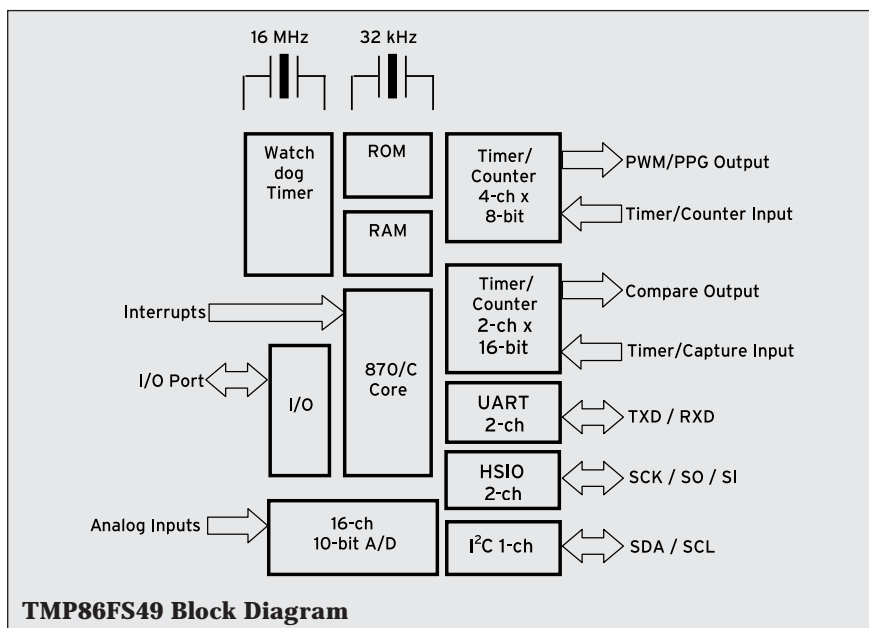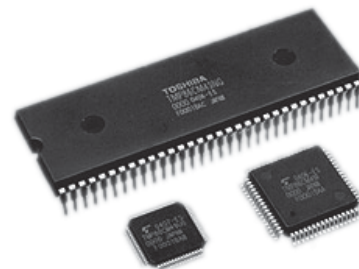# Highly Integrated 8-Bit Flash Microcontroller

from Toshiba

The TMP86FS49 is a new 8-bit microcontroller incorporating 60 Kbytes of Flash memory and a large number of on-chip peripheral functions such as UART (2 channels), synchronous serial interface (2 channels) and I²C bus interface (1 channel) as communication functions. It includes a 10-bit A/D converter, various timers and is available in three types of package, making it ideal for consumer and industrial applications, and for networked home appliances.

The microcontroller supports on-board programming and offers enhanced security functionality to protect the user program against unauthorized external read-out. The high-speed microcontroller CPU has a low power consumption.

Key Features

- TLCS-870/C CPU core with internal 8-bit architecture
- Flash memory: 60 Kbytes
- RAM: 2 Kbytes
- 24 interrupt sources (external: 5, internal: 19)
- Input/output ports (56 pins)
- 16-bit timer counter: 2 channels (timer, event counter, external trigger timer, window, pulse width measurement, PPG output modes)
- Time base timer
- Watchdog timer
- 8-bit timer counter: 4 channels (timer, event counter, programmable divider output, PWM output, capture modes)
- Serial interfaces: UARTs, SIO, I²C bus
- 10-bit precision A/D converter: 16 channels
- Key-on wake-up: 4 channels
- Nine power-saving operating modes
- Wide operating voltage: 4.5…5.5 V @ 16 MHz and 32.768 kHz subclock 2.7…5.5 V @ 8 MHz and 32.768 kHz subclock
- Packages: 64-pin QFP, LQFP, SDIP

Software and Tools

Besides a high-end real-time emulator for the TLCS-870/C family, a low-cost starter kit (BMSKTOPAS86FS49A) including IDE, ROM monitor, simulator debugger, Flash programmer, compiler (limited version), application notes and evaluation board is available.

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TMP86FS49 Block Diagram