

APPLICATIONS:

- Motor Control
- Test and Measurement
- Instrumentation

LZ87010 8-bit Flash Microcontroller

FEATURES

- 8-Bit, 8051 Enhanced CPU Core:
 - Two-clock Machine Cycle
(6 × Performance Boost over Standard 8051 CPU Core)
 - Two-wire Debug Interface with Breakpoint and Trace
- 20 MHz - 40 MHz Operating Frequency at 3.3 V
 - Equivalent to 240 MHz (MAX.) Standard 8051
- Flexible Internal Clocking Architecture
- 64KB Built-In Flash Memory
 - Flash Memory In-circuit Serially Programmable
- External Program Memory Expansion Capability
 - Supports Reads and Writes
- 4KB Internal MOVX SRAM
- 256 Bytes Scratchpad RAM
- Six 16-bit Multifunction Timer/Counters
 - Two General Purpose
 - Two with Capture/Compare/PWM Capability
 - Two with Compare/PWM Capability
- Serial Interfaces
 - Two UART/SIO
 - Baud Rate Converter for UART 1
 - One I²C
- A/D Converter
 - Eight Channel, 12-Bit Resolution
- D/A Converter
 - Two Channel, 8-bit Resolution
 - Waveform Generator Capability
- Sixteen High Current Output Pins
 - 12 mA (MAX.) Each
- Up to 56 GPIO
- Watchdog Timer
- Low Power Modes: Active, Power Down, Idle
- 3.3 V Power Supply
- -40°C to +85°C Operating Temperature
- 100-Pin LQFP Package

DESCRIPTION

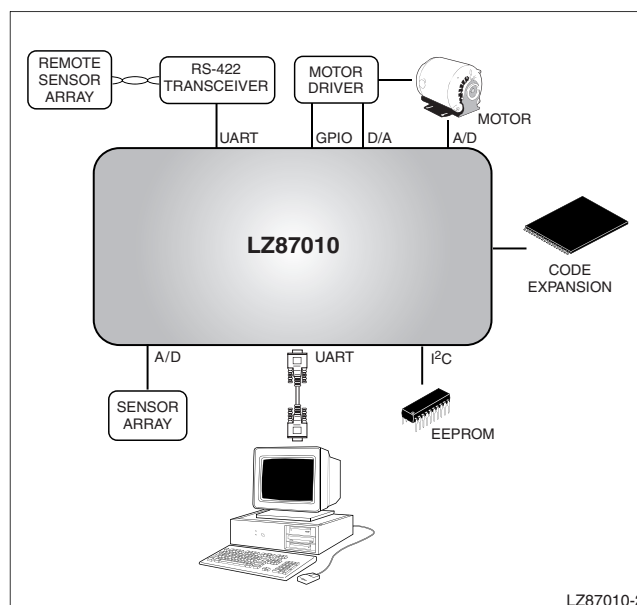
The LZ87010 is an 8-bit, 8051-based microcontroller that adds 64KB of integrated Flash memory, two UART/SIOs, I²C, and several multifunction timers. It also incorporates an 8-channel 12-bit A/D converter, two separate 8-bit D/A converters, and low power modes of operation.

The 8051 Enhanced Core provides a performance boost, six times that of a standard 8051 core operating at the same frequency and has built-in 2-wire debug support. It is software-compatible with 8031/8051 series parts.

The LZ87010 operates from 20 MHz - 40 MHz over the industrial temperature range of -40°C to +85°C.

SHARP's LZ87010 design provides low power, exceptional performance, good flexibility, and great value in an 8-bit processor.

SYSTEM APPLICATION EXAMPLE



LZ87010 BLOCK DIAGRAM

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