



Home > Integrated Circuits > Low Power Microcontroller > ML610Q400 series > ML610Q482(P)/ML610482(P)

8bit Low Power Microcontroller ML610Q482(P)/ML610482(P)

Integrated Circuits
Communication LSI
Low Power Microcontroller
ML610Q400 series
ML610300 series
32-bit Microcontroller
Speech Synthesis LSI
Audio LSI
Security LSI
Video LSI
Video Memory
P2ROM
DRAM
Display LSI
Other LSI
Optical Components
Product Name
Quality Assurance and Reliability

| [ML610Q400 series](#) | [ML610Q482\(P\)/482\(P\)](#) | [ML610Q411\(P\)/Q412\(P\)](#) | [ML610Q415](#) | [ML610Q421\(P\)/Q422\(P\)](#) | [ML610Q431/Q432](#) | [ML610Q435/Q436](#) | [Software Development Support System](#) |

Suitable for the controller of all compact battery-driven applications!

Description

ML610Q482(P)/482P is a high-performance 8-bit CMOS microcontroller built-in with the original eight bits CPU nX-U8/100 as its core. The LCD driver is not built-in, and the interface with various external display drivers such as for electronic paper is possible. The difference between ML610Q482 and ML610Q482P is only the operating temperature range. The program memory(64KB), RAM(4KB), and, as the peripheral functions, UART, SSIO(SPI), I2C (master), battery level detector, 24-bit RC-type A/D converter, analog comparator, timers, and GPIO ports are integrated. The CPU core is capable of efficient instruction execution in one-instruction one cycle by 3-stage pipelined architecture parallel processing. The built-in Flash memory achieves operating at low voltage and low power consumption equivalent of Mask-ROM. Additionally the microcontroller operates in low-speed mode and power-saving mode, is most suitable for battery-driven applications. The Flash memory enables writing a custom code in the final test process, achieving a shorter turnaround time(TAT).

Feature

- Ultra low power, 1V operative Flash memory & Halt current 0.5μA
- Original RISC CPU: achieved one-instruction one cycle by 3-stage pipelined architecture.
- Suitable for the controller of compact battery-driven applications
 - Chip or TQFP48pin
 - UART, SSIO (SPI), or I2C(master) selectable
 - Various memory sizes (64KByte ROM, 4KByte RAM)
- Provides small-sized cost saving development environment: On-chip debug emulator "μEASE"

Applications

- Electronic shelf label
- Thermostat
- Weather station

Specification

Parameter	Specification	
CPU	8bit RISC CPU nX-U8/100 Core	
ROM (FLASH)	64KB (including 1KB as test area)	
RAM	4KB	
General Port (incl. 2nd function)	Max. 32	
A/D Converter	24bit RC-type×2ch	
Analog Comparator	Common mode input: 0.2V to (VDD-1.0)V Input offset: 50mV (typ.)	
Serial I/F	UART×1ch, SSIO(SPI)×1ch, I2C(master)×1	
Timer	8bit Timer	4
	16bit PWM	1
	Others	TBC (Time Base Counter)×1 WDT×1
External Interrupt	5	
Other Functions	Battery level detector, Clock out, etc.	
Operating Frequency	High Speed	4.096MHz (Internal PLL or External ceramic/crystal) 500kHz(internal RC)
	Low Speed	32.768/38.4kHz
Supply Voltage	1.1V to 3.6V	

Topics

8bit low power microcontroller
ML610Q482(P)/ML610482(P)

Software development support system
-Low power microcontroller-
ML610300 series
Low power microcontroller with speech output function

ML610Q400 series
Low power with embedded Flash memory microcontroller

News Release

2009/03/26
Starts shipping samples of ML610340 Series low-power microprocessor family with built-in audio playback function

2009/02/25
Expands its Family of Ultra Low Power 8-bit Flash Microcontrollers for Portable Applications

2008/11/19
Expands its Family of Ultra Low Power 8-bit Flash Microcontrollers

FAQ

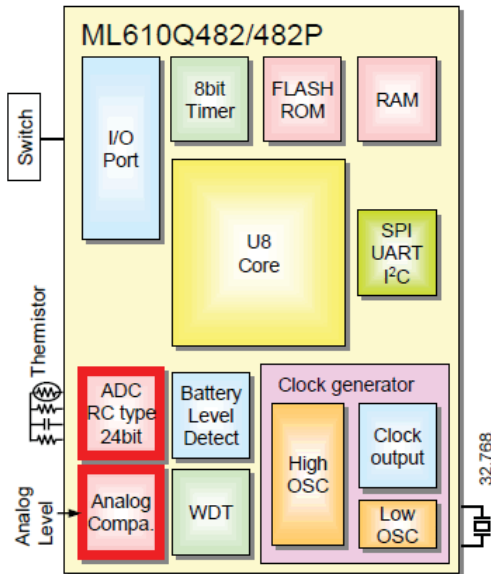
[ML610Q400 series](#)

Inquiries

Operating Temperature		ML610Q482: -20°C to +70°C ML610Q482P: -40°C to +85°C
Current Consumption (Typ.)	Standby mode	HALT mode: 0.5μA STOP mode: 0.15μA
	Operating mode	32kHz: 5μA(CPU run duty 100%) 500kHz: 70μA(internal RC) 4.096MHz: 830μA(internal PLL)
Supply Form		Die or 48TQFP

[Privacy Policy](#) [Site Policy](#)

Block Diagram



Program Development Environment

The page of the application program development environment is:

- Software development support system

Related Pages

- Low Power Microcontroller
 - ML610Q400 series
 - ML610Q411(P)/Q412(P)
 - ML610Q415
 - ML610Q421(P)/Q422(P)
 - ML610Q431/Q432
 - ML610Q435/Q436
 - FAQ
 - Regarding LSI
 - Regarding development environment
 - Regarding programming
 - Regarding application

Contact

For details of this product, please fill in:

[▶ Inquiry Mail Form](#)

[Top of this page](#)

All rights reserved, Copyright © 2008-2011 OKI SEMICONDUCTOR CO., LTD.