Kinetis® K50-100 MHz, USB Microcontrollers (MCUs) based on Arm® Cortex®-M4 Core
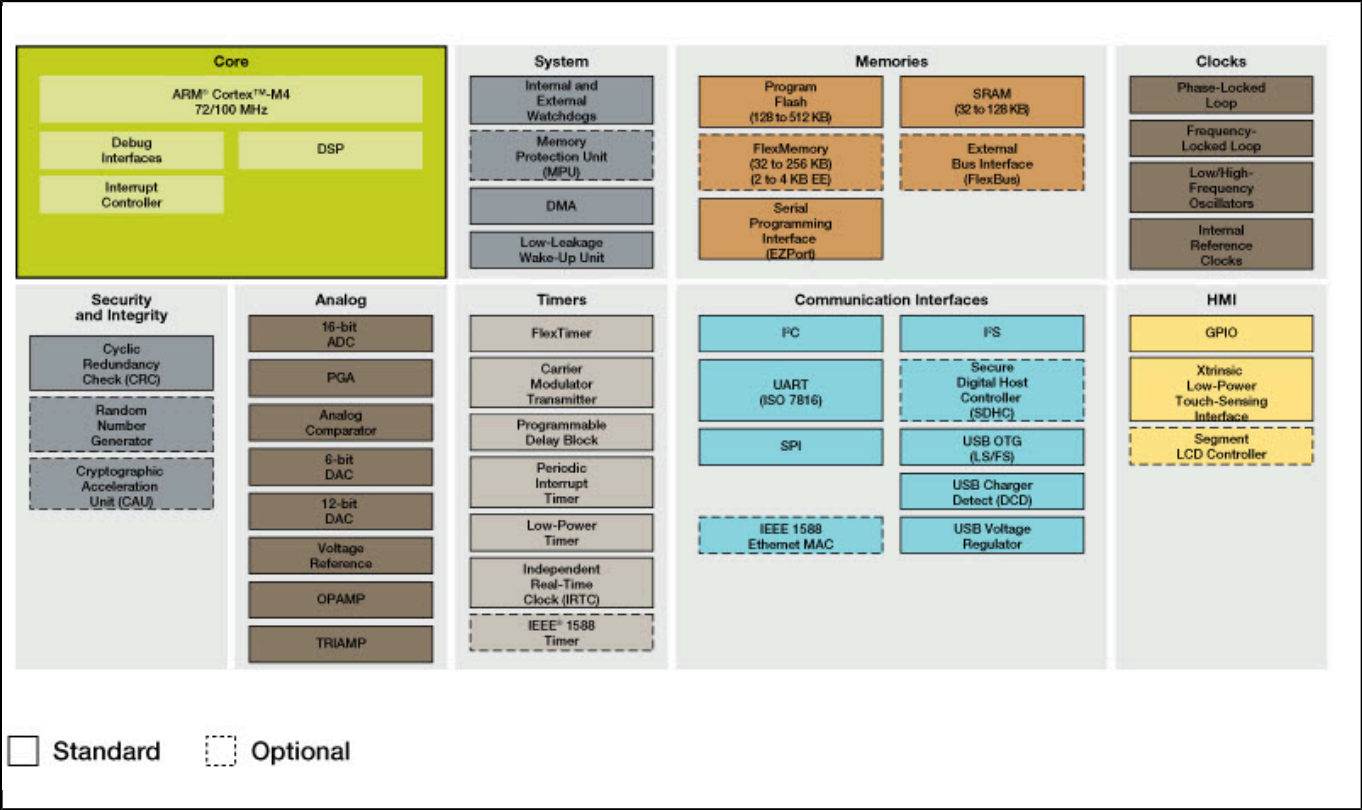
K50_100

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The Kinetis® K50 100 MHz MCU family provides an analog measurement engine consisting of integrated operational and trans-impedance amplifiers as well as high-resolution ADC and DAC modules for medical and industrial applications.

- Increases performance by reducing core interruption
- Supports system cost reduction and design flexibility
- Increases system safety by securing access to critical memory locations
- Offers scalability for key digital power and motor control applications
- Shares the comprehensive enablement of the Kinetis portfolio

Kinetis K5x MCU Family Block Diagram Block Diagram

Core
- ARM® Cortex™-M4 72/100 MHz
- Debug Interfaces
- DSP
- Interrupt Controller

System
- Internal and External Watchdogs
- Memory Protection Unit (MPU)
- DMA
- Low-Leakage Wake-Up Unit

Memories
- Program Flash (128 to 512 KB)
- SRAM (32 to 128 KB)
- FlexMemory (32 to 256 KB) (2 to 4 KB EE)
- External Bus Interface (FlexBus)
- Serial Programming Interface (EZPort)

Clocks
- Phase-Locked Loop
- Frequency-Locked Loop
- Low/High-Frequency Oscillators
- Internal Reference Clocks

Security and Integrity
- Cyclic Redundancy Check (CRC)
- Random Number Generator
- Cryptographic Acceleration Unit (CAU)

Analog
- 16-bit ADC
- PGA
- Analog Comparator
- 6-bit DAC
- 12-bit DAC
- Voltage Reference
- OPAMP
- TRIAMP

Timers
- FlexTimer
- Carrier Modulator Transmitter
- Programmable Delay Block
- Periodic Interrupt Timer
- Low-Power Timer
- Independent Real-Time Clock (IRTC)
- IEEE® 1588 Timer

Communication Interfaces
- I²C
- I²S
- UART (ISO 7816)
- Secure Digital Host Controller (SDHC)
- SPI
- USB OTG (LS/FS)
- USB Charger Detect (DCD)
- IEEE 1588 Ethernet MAC
- USB Voltage Regulator

HMI
- GPIO
- Xtrinsic Low-Power Touch-Sensing Interface
- Segment LCD Controller

☐ Standard ⬚ Optional

View additional information for Kinetis® K50-100 MHz, USB Microcontrollers (MCUs) based on Arm® Cortex®-M4 Core.

Note: The information on this document is subject to change without notice.