



MCX A13, 14, 15 Essential MCUs with Arm® Cortex® M33, Low Power and Intelligent Peripherals

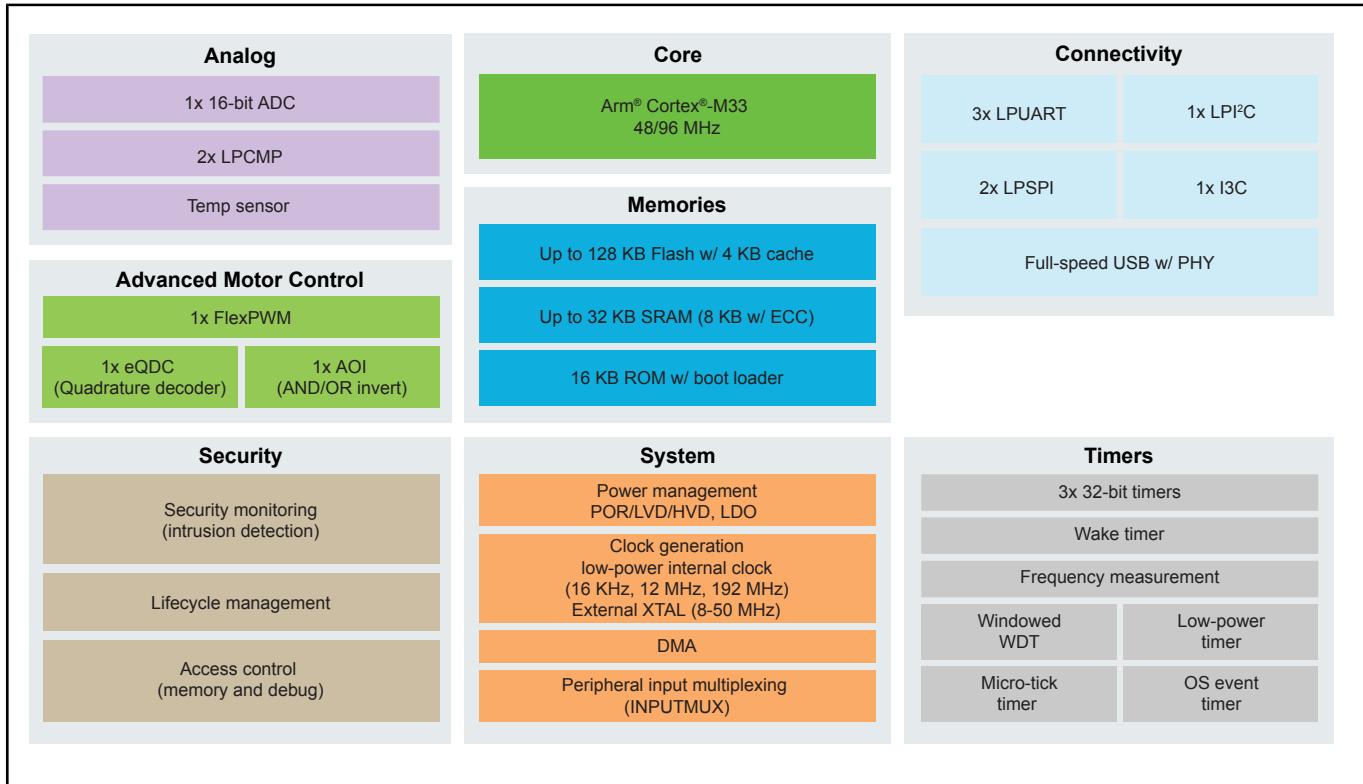
MCX-A13X-A14X-A15X

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MCX A13x, A14x, A15x microcontrollers featuring an Arm® Cortex®-M33 core operate at up to 96MHz with high levels of integration and analog. They address a wide range of applications with scalable device options. The low-power and intelligent peripherals include timers that generate three complementary PWM pairs with deadband insertion, 4Msps 16b ADC with hardware windowing and averaging features. The innovative power architecture is designed to support high utilization of I/Os and power efficiency with a simple supply circuit in a smaller footprint.

The devices are supported by the [MCUXpresso Developer Experience](#) to accelerate embedded system development.

MCX A132/3, A142/3, A152/3 Block Diagram Block Diagram



MCX A144/5/6, A154/5/6 Block Diagram Block Diagram

| | | | | |
|---|--|---|---|--|
| Analog <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="flex: 1;"> <p>2x 16-bit ADC</p> <p>1x OpAmp w/ PGA</p> <p>1x 12-bit DAC</p> </div> <div style="flex: 1;"> <p>2x LPCMP</p> <p>Temp sensor</p> </div> </div> | | Core <div style="display: flex; justify-content: space-between;"> <div style="flex: 1;"> <p>Arm® Cortex®-M33 48/96 MHz with FPU, SIMD, DSP</p> </div> <div style="flex: 1;"> <p>Memories</p> <p>Up to 1 MB Flash w/ 4 KB cache</p> <p>Up to 128 KB SRAM (8 KB w/ ECC)</p> <p>16 KB ROM w/ boot loader</p> </div> </div> | Connectivity <div style="display: flex; justify-content: space-between;"> <div style="flex: 1;"> <p>4x I²C</p> <p>2x LP SPI</p> <p>Full-speed USB w/ PHY</p> </div> <div style="flex: 1;"> <p>5x UART</p> <p>1x I²C</p> <p>1x CAN FD</p> </div> </div> | |
| Advanced Motor Control <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="flex: 1;"> <p>2x FlexPWM</p> <p>2x eQDC (Quadrature decoder)</p> </div> <div style="flex: 1;"> <p>2x AOI (AND/OR invert)</p> </div> </div> | | HMI <div style="background-color: #ffcc99; height: 20px;"></div> | | |
| Security <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="flex: 1;"> <p>Security monitoring (intrusion detection)</p> <p>Lifecycle management</p> </div> <div style="flex: 1;"> <p>Access control (memory and debug)</p> </div> </div> | | System <div style="display: flex; justify-content: space-between;"> <div style="flex: 1;"> <p>Power management POR/LVD/HVD, LDO</p> <p>Clock generation low-power internal clock (16 KHz, 12 MHz, 192 MHz) External XTAL (8-50 MHz)</p> <p>DMA</p> <p>Peripheral input multiplexing (INPUTMUX)</p> </div> </div> | Timers <div style="display: flex; justify-content: space-between;"> <div style="flex: 1;"> <p>5x 32-bit timers</p> <p>Wake timer</p> <p>Frequency measurement</p> </div> <div style="flex: 1;"> <p>Windowed WDT</p> <p>Micro-tick timer</p> <p>Low-power timer</p> <p>OS event timer</p> </div> </div> | |

View additional information for [MCX A13, 14, 15 Essential MCUs with Arm® Cortex® M33, Low Power and Intelligent Peripherals](#).

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