The LPC553x/S3x MCU family expands the general purpose Arm® Cortex®-M33 based LPC5500 MCU series.

**TARGET APPLICATIONS**
- Industrial IoT
- Industrial automation
- Building control
- Secure applications
- Consumer electronics
- General embedded

This LPC family introduces new levels of integration and analog features. LPC553x MCUs offer high-precision and fast ADCs, instrumentation class OpAmp with PGA supporting 64x and DAC. In addition, the newly added low power cache enhance the system performance and 100% Flash with ECC and RAM with parity/ECC support system safety integration provide the industrial applications an layer of extra protection and assurance.

The LPC5500 MCU series offers advantages for developers, including cost-effective 40-nm NVM process technology, along with software- and peripheral-compatibility for ease of use and to help accelerate time to market. NXP’s comprehensive enablement package includes the MCUXpresso Software and Tools ecosystem along with low-cost development boards.
HIGH ANALOG AND DIGITAL INTEGRATION

The LPC553x/S3x MCU family offers a combination of precision analog integration, low power consumption and motor control PWMS. With multiple connectivity options including CAN 2.0, CAN FD, USB FS Device/Host, high-speed SPI and FlexComm interfaces (configurable as either SPI/I2C/I2S, UART), this MCU family features a versatile integration for today’s high-demand needs.

The newly added FlexSPI with 8KB Cache support On-The-Fly Encrypt/Decrypt enable applications to expand the on-chip memory, support various boot options and execute directly from external serial memories.

COMPREHENSIVE ENABLEMENT SOLUTIONS

MCUXPRESSO SDK
- Extensive suite of robust peripheral drivers, stacks and middleware
- Motor control example code working directly with FRDM-MC-LVPMSM Freedom Development Platform for Low-Voltage, 3-Phase PMSM Motor Control
- INTEGRATED DEVELOPMENT ENVIRONMENTS (IDE)
  - MCUXpresso IDE
  - IAR® Embedded Workbench
  - Arm Keil® Microcontroller Development Kit

ROM
- Dedicated bootloader for the LPC5550 MCU family
- In-system flash programming over serial connection: erase, program, verify
- ROM or flash-based bootloader with open-source software and host-side programming utilities

LPC553x / S3X DEVELOPMENT BOARD
- LPC5536 Cortex-M33-based processor on LPC5536-EVK
- LPC55536 Cortex-M33-based processor on LPC55536-EVK
- Onboard MCU Link debug probe
- Flexible expansion: Arduino®, Mikroe and PMod headers
- Various on-board interfaces and components

LPC553x/LPC5533x BLOCK DIAGRAM

LPC5534
- 128 KB FLASH
- 96 KB SRAM
- 4 ADCs
- 3x DACs
- 3x OpAmps
- Secure Boot, Secure Boot (LPC5533x)
- FS USB, I3C, CAN-FD, FlexComm (8)
- LQFP100, HTQFP64, HVQFN48

LPC5536
- 256 KB FLASH
- 128 KB SRAM
- 4 ADCs
- 3x DACs
- 3x OpAmps
- Secure Boot, Secure Boot (LPC5536)
- FS USB, I3C, CAN-FD, FlexComm (8)
- LQFP100, HTQFP64, HVQFN48

LPC55536
- 256 KB FLASH
- 128 KB SRAM
- 4 ADCs
- 3x DACs
- 3x OpAmps
- Secure Boot, Secure Boot (LPC55536)
- FS USB, I3C, CAN-FD, FlexComm (8)
- LQFP100, HVQFN48

LPC5536-EVK
- Evaluation Kit for LPC553x

LPC55536-EVK
- Evaluation Kit for LPC5553x

www.nxp.com/LPC553x

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