

STM32L5 Series

Excellence in ultra-low-power with more security



First STM32 MCU based on Arm® Cortex®-M33 and TrustZone®

The STM32L5 series is the answer for embedded application requiring more security and a lower power consumption. It adds more security with Arm® Cortex®-M33 and its TrustZone® and ST security implementation while using the best-in-class ultra-low power technology.

Offering up to 512 Kbytes of flash (dual bank) memory and 256 Kbytes of SRAM, the STM32L5 reaches an upgraded level of performance (427 CoreMark) thanks to this new core and a new ST ART Accelerator™ (supporting now also external memory).

The STM32L5 offers a large portfolio with 7 packages (from 48 to 144 pins) and supports up to 125°C ambient temperature.

POWER CONSUMPTION

- EEMBC ULPBench®: 402 ULPMark-CP score
- Embedded SMPS step down converter (optional)
- Best power consumption numbers with full flexibility:
 - 33 nA in shutdown mode
 - 3.6 µA in stop mode with full SRAM and peripheral states retention and with 5 µs wake-up time
 - Down to 60 µA/MHz in active mode

A FULL SET OF SECURITY

- Flexible hardware and software secure isolations with TrustZone®
- Enhanced security services : dedicated secure user memory space for Secure Boot, symmetric and asymmetric crypto accelerations, memory and IP protection, independent Read out protection between secure / non secure domains, active IO tamper detection, certified cryptolib, embedded Secure Firmware Install loader and ecosystem.



More security

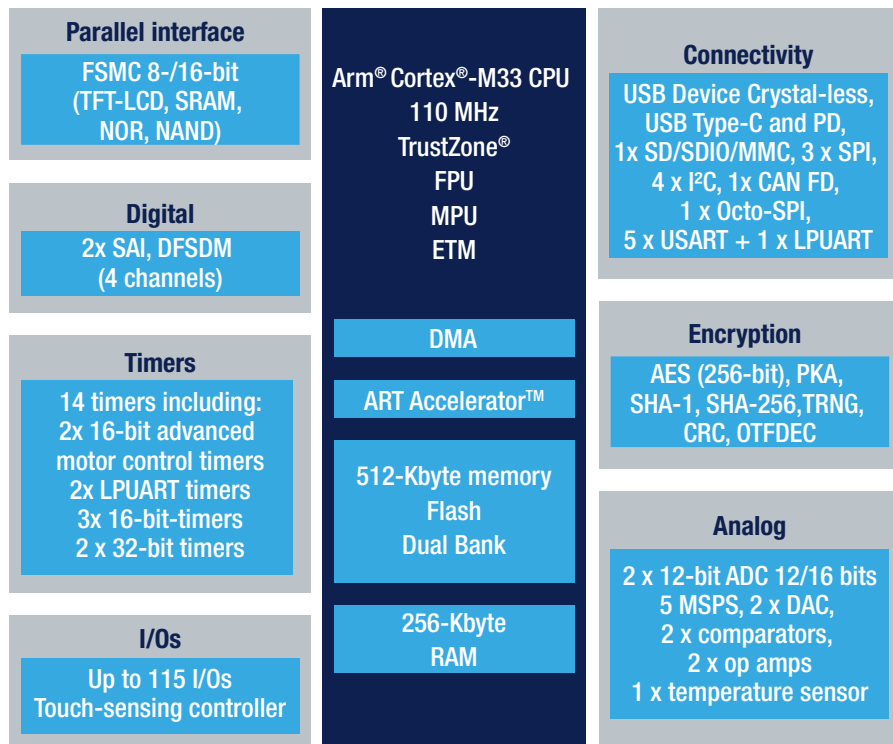


Lower power consumption



Integration, size performance

STM32L562 BLOCK DIAGRAM



INTEGRATION, SIZE, PERFORMANCE

- Better responsiveness of the application:
 - New Arm® Cortex®-M33 at 110 MHz performance: +20% versus Cortex®-M4
 - New ART Accelerator™: working both on internal and external Flash (8 Kbyte s of instruction cache)
- Achieving 165 DMIPS, 427 CoreMark scores and 402 ULPMark-CP
- High integration and innovation: large memory, USB Type-C™ with power delivery controller, CAN FD
- Large portfolio: 7 packages type for several options

ST COMMUNITY



Engage with the community of STM32 enthusiasts on community.st.com/stm32

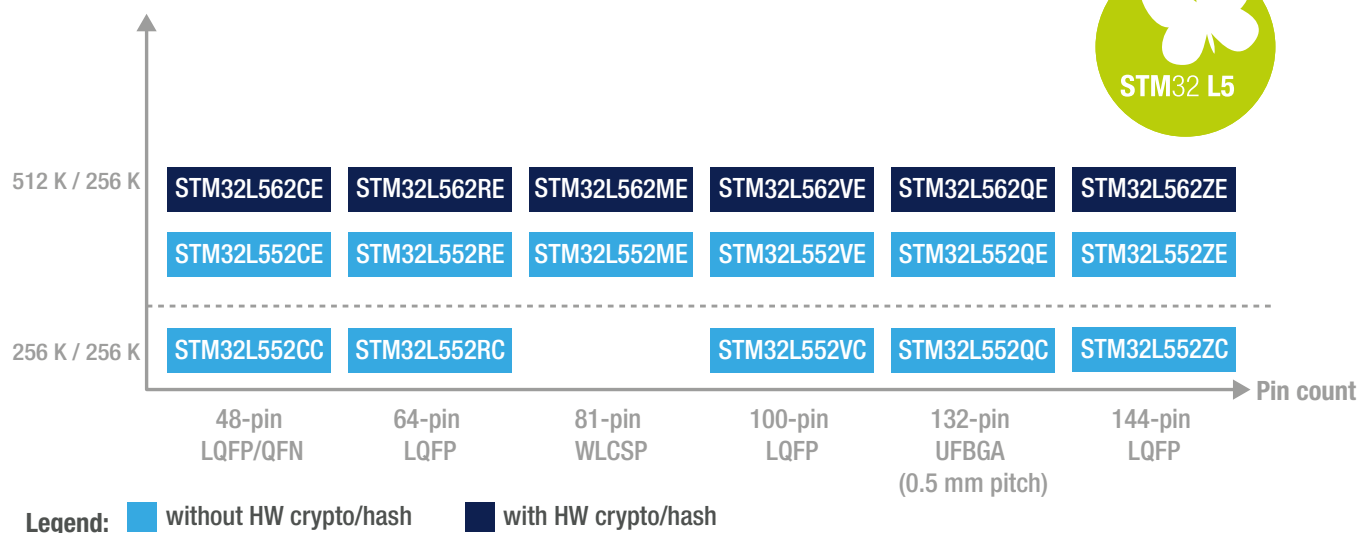
STM32L5 PORTFOLIO

STM32L552 and STM32L562 devices extend the ultra-low-power portfolio and performance with an Arm® Cortex®-M33 core with TrustZone®, DSP and floating-point unit (FPU) at 110 MHz.

- The STM32L552 portfolio offers from 256 to 512 Kbytes of Flash memory and from 48 to 144-pin packages.
- The STM32L562 is available with 512 Kbytes of Flash memory and provides an additional encryption accelerator engine (AES, PKA, and OTFDEC).

All the packages are available with or without an embedded SMPS (DC/DC buck voltage regulator).

Flash memory size / RAM size (bytes)



Legend: ■ without HW crypto/hash ■ with HW crypto/hash