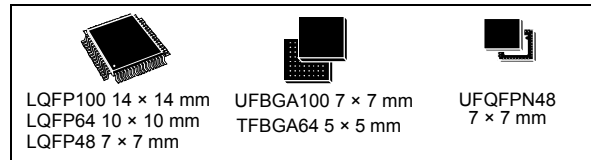


Ultra-low-power 32-bit MCU ARM[®]-based Cortex[®]-M3,
128KB Flash, 32KB SRAM, 4KB EEPROM, LCD, USB, ADC, DAC

Datasheet - production data

Features

- Ultra-low-power platform
 - 1.65 V to 3.6 V power supply
 - **-40°C to 105°C** temperature range
 - 0.28 µA Standby mode (3 wakeup pins)
 - **1.11 µA Standby mode + RTC**
 - 0.44 µA Stop mode (16 wakeup lines)
 - 1.38 µA Stop mode + RTC
 - 10.9 µA Low-power Run mode
 - 185 µA/MHz Run mode
 - 10 nA ultra-low I/O leakage
 - < 8 µs wakeup time
- Core: ARM[®] Cortex[®]-M3 32-bit CPU
 - From 32 kHz up to 32 MHz max
 - 1.25 DMIPS/MHz (Dhrystone 2.1)
 - Memory protection unit
- Reset and supply management
 - Ultra-safe, low-power BOR (brownout reset) with 5 selectable thresholds
 - Ultra-low-power POR/PDR
 - Programmable voltage detector (PVD)
- Clock sources
 - 1 to 24 MHz crystal oscillator
 - 32 kHz oscillator for RTC with calibration
 - High Speed Internal 16 MHz factory-trimmed RC (+/- 1%)
 - Internal low-power 37 kHz RC
 - Internal multispeed low-power 65 kHz to 4.2 MHz
 - PLL for CPU clock and USB (48 MHz)
- Pre-programmed bootloader
 - USART supported
- Development support
 - Serial wire debug supported
 - JTAG and trace supported
- Up to 83 fast I/Os (73 I/Os 5V tolerant), all mappable on 16 external interrupt vectors
- Memories
 - Up to 128 Kbytes Flash memory with ECC
 - Up to 32 Kbytes RAM
 - Up to 4 Kbytes of true EEPROM with ECC
 - 80-byte backup register



- LCD Driver (except STM32L151x6/8/B-A devices) for up to 8x40 segments
 - Support contrast adjustment
 - Support blinking mode
 - Step-up converter on board
- Rich analog peripherals (down to 1.8 V)
 - 12-bit ADC 1 Msps up to 24 channels
 - 12-bit DAC 2 channels with output buffers
 - 2x ultra-low-power-comparators (window mode and wake up capability)
- DMA controller 7x channels
- 8x peripheral communication interfaces
 - 1x USB 2.0 (internal 48 MHz PLL)
 - 3x USART (ISO 7816, IrDA)
 - 2x SPI 16 Mbits/s
 - 2x I2C (SMBus/PMBus)
- 10x timers: 6x 16-bit with up to 4 IC/OC/PWM channels, 2x 16-bit basic timers, 2x watchdog timers (independent and window)
- Up to 20 capacitive sensing channels supporting touchkey, linear and rotary touch sensors
- CRC calculation unit, 96-bit unique ID

Table 1. Device summary

| Reference | Part number |
|---|---|
| STM32L151CB-A, STM32L151C8-A, STM32L151C6-A, STM32L151RB-A, STM32L151R8-A, STM32L151R6-A, STM32L151VB-A, STM32L151V8-A | STM32L151CBxxA STM32L151C8xxA, STM32L151C6xxA, STM32L151RBxxA, STM32L151R8xxA, STM32L151R6xxA, STM32L151VBxxA, STM32L151V8xxA |
| STM32L152CB-A, STM32L152C8-A, STM32L152C6-A, STM32L152RB-A, STM32L152R8-A, STM32L152R6-A, STM32L152VB-A, STM32L152V8-A | STM32L152CBxxA, STM32L152C8xxA, STM32L152C6xxA, STM32L152RBxxA, STM32L152R8xxA, STM32L152R6xxA, STM32L152VBxxA, STM32L152V8xxA |