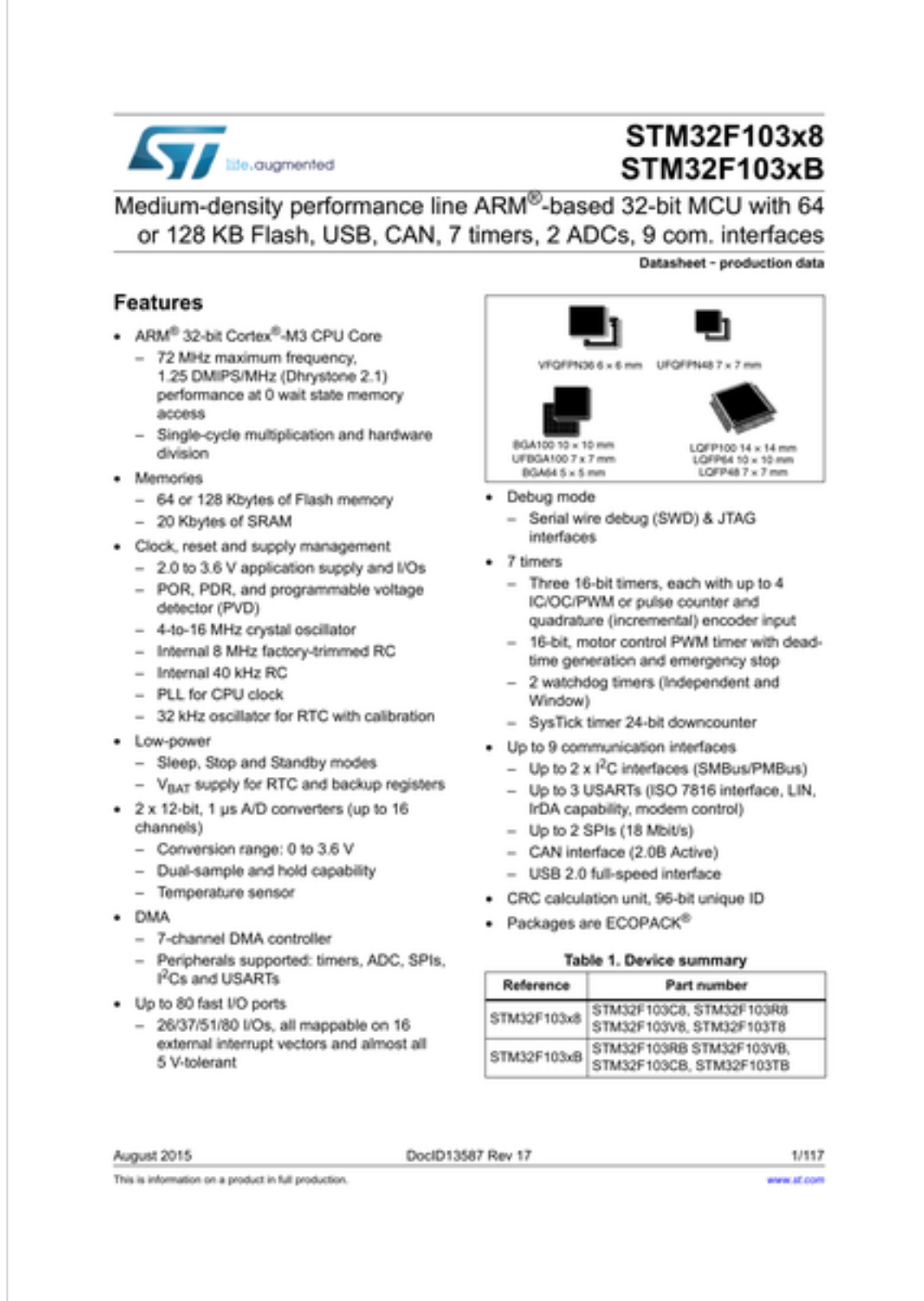


Last updated by Sebastian K. on Aug 18

Datasheet

Microcontroller

- Manufacturer: ST
- Architecture: ARM®32-bit Cortex®-M3 CPU Core
- Type: [STM32F103CBT6](#)
- [Mouser](#)
- Datasheet:



Datasheet STM32F103CBT6 Microcontroller · 1.68 MB · [View full-size](#) · [Download](#)

Key Features

ARM®32-bit Cortex®-M3 CPU Core

- 72 MHz maximum frequency, 1.25 DMIPS/MHz (Dhrystone 2.1) performance at 0 wait state memory access
- Single-cycle multiplication and hardware division

Memories

- 64 or 128 Kbytes of Flash memory
- 20 Kbytes of SRAM

Clock, reset and supply management

- 2.0 to 3.6 V application supply and I/Os
- POR, PDR, and programmable voltage detector (PVD)
- 4-to-16 MHz crystal oscillator
- Internal 8 MHz factory-trimmed RC
- Internal 40 kHz RC
- PLL for CPU clock
- 32 kHz oscillator for RTC with calibration

Low-power

- Sleep, Stop and Standby modes
- VBAT supply for RTC and backup registers

2 x 12-bit, 1 µs A/D converters (up to 16 channels)

- Conversion range: 0 to 3.6 V
- Dual-sample and hold capability
- Temperature sensor

DMA

- 7-channel DMA controller
- Peripherals supported: timers, ADC, SPIs, I2Cs and USARTs

Up to 80 fast I/O ports

- 26/37/51/80 I/Os, all mappable on 16 external interrupt vectors and almost all 5 V-tolerant

Debug mode

- Serial wire debug (SWD) & JTAG interfaces

7 timers

- Three 16-bit timers, each with up to 4 IC/OC/PWM or pulse counter and quadrature (incremental) encoder input
- 16-bit, motor control PWM timer with dead-time generation and emergency stop
- 2 watchdog timers (Independent and Window)
- SysTick timer 24-bit downcounter

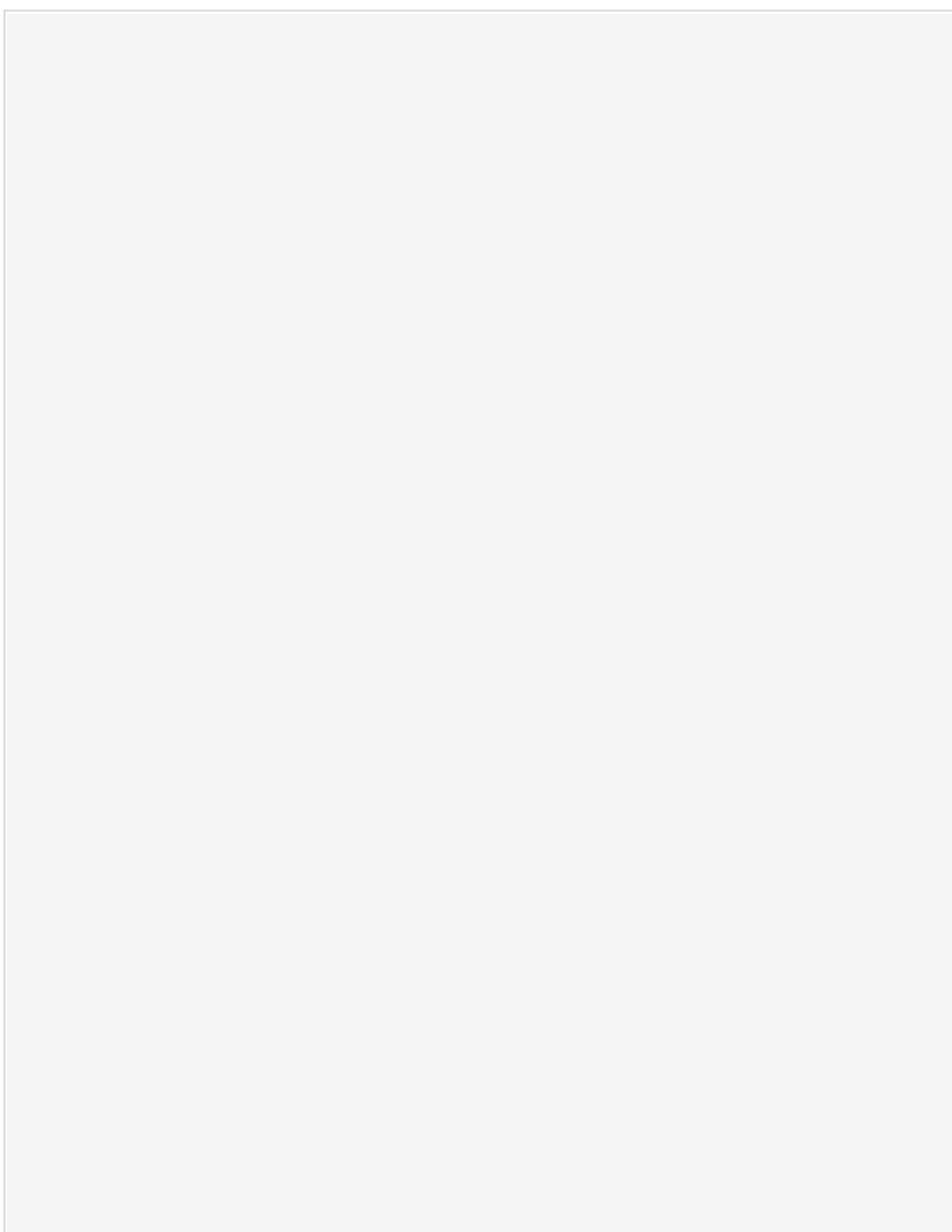
Up to 9 communication interfaces

- Up to 2 x I2C interfaces (SMBus/PMBus)
- Up to 3 USARTs (ISO 7816 interface, LIN, IrDA capability, modem control)
- Up to 2 SPIs (18 Mbit/s)
- CAN interface (2.0B Active)
- USB 2.0 full-speed interface

CRC calculation unit, 96-bit unique ID

Packages are ECOPACK®

Board



MINI-BASE-A001-1.0.0-front.PNG · 214 KB · [View full-size](#) · [Download](#)

- Size: 54mm x 42.5 mm - exactly half a credit card
- Mounting Holes:
 - ø 3.2mm (for M3 bolt)
 - spaced 48mm and 36.5mm from each other
- Voltage transformer for external power:
 - up to 24V input
 - up to 1.2A @ 5V output
 - up to 1A @ 3.3V output
- Board-to-Board Connectors:
 - 2x [Würth WR-MM Female 26p_690367182672](#)
 - pinout symmetrical - top boards can be rotated
- USB Type C connector
 - [JAE DX07S016JA1R1500](#)
- micro SD Card slot
- CAN connection available on board-to-board connector pins 5 and 6
 - transceiver equipped: [SN65HVD230](#)
 - terminating resistor equipped, switchable in software
- pressure, altitude and temperature combined sensor
 - sensor equipped: [MPL3115A2](#)
- quality suitable for environmental measurements: barometric pressure, etc

programm settings

- board: generic STM32F103C series
- variant: STM32F103CB (20k RAM, 128k flash)
- upload method: STM32duino bootloader
- CPU speed: 72 MHz
- optimize: smallest(default)

internal IOs

CAN

- CAN TX - PB9
- CAN RX - PB8
- CAN termination - PA0 (high=on)

SD card

- CS - PA4
- MISO - PA6
- MOSI - PA7
- SCK - PA5

temp. sensor

- SCL - PB6
- SDA - PB7

user led

- led - PC13 (low=on)



Discussion

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