

1. Features

Core

- ✓ 32-bit Arm® Cortex®-M3 Core
- ✓ Up to 72MHz working frequency, 1.25 DMIPS / MHz (Dhrystone 2.1) performance at 0 wait state memory access
- ✓ Single-cycle multiplication and hardware division

Memories

- ✓ Up to 512 Kbytes of Flash memory
- ✓ Up to 64 Kbytes of SRAM
- ✓ Flexible static memory controller. Supports muxed NOR flash, muxed PSRAM, NAND flash
- ✓ LCD parallel interface, 8080 / 6800 modes

Reset and power management

- ✓ 1.8 to 5.0 V application supply and I/Os
- ✓ POR, PDR, and programmable voltage detector (PVD)
- ✓ Low power modes: Sleep, Stop, Standby
V_{BAT} supply for RTC and backup registers

Clock management

- ✓ 4 to 16 MHz crystal oscillator
- ✓ Internal 8 MHz factory-trimmed RC
- ✓ Internal 40 kHz RC with calibration
- ✓ 32 kHz oscillator for RTC with calibration

Peripheral features

- 3 x 12-bit, 1µs ADC (up to 16 channels)
 - ✓ Conversion range: 0 to 5.0 V
 - ✓ Triple-sample and hold capability

- ✓ Temperature sensor
- 2 x 12-bit DAC
- DMA : 12-channel DMA controller
 - ✓ Supported peripherals: timers, ADCs, DAC, SDIO, I2Ss, SPIs, I2Cs and USARTs
- Debug mode
 - ✓ Serial wire debug (SWD) & JTAG interfaces
 - ✓ Cortex® -M3 Embedded Trace Macrocell™
- Up to 80 fast I/O ports
 - ✓ 51/80 I/Os, all mappable on 16 external interrupt vectors and almost all 5 V-tolerant
- Up to 11 timers
 - ✓ Up to four 16-bit timers, each with up to 4 IC/OC/PWM or pulse counter and quadrature (incremental) encoder input
 - ✓ 2 x 16-bit motor control PWM timers with deadtime generation and emergency stop
 - ✓ 2 x watchdog timers (Independent and Window)
 - ✓ SysTick timer: a 24-bit downcounter
 - ✓ 2 x 16-bit basic timers to drive the DAC
- Up to 13 communication Interfaces
 - ✓ Up to 2 x I2C interfaces
 - ✓ Up to 5 USARTs (ISO 7816 interface, LIN, IrDA capability, modem control)
 - ✓ Up to 3 SPIs (18 Mbit/s), 2 with I2S interface multiplexed
 - ✓ CAN interface (2.0B Active)
 - ✓ USB 2.0 full speed interface
 - ✓ SDIO interface
- CRC calculation unit, 96-bit unique ID
- Packages : LQFP64, LQFP100