# STMICROELECTRONICS STM32 ARM Cortex™

STMicroelectronics

## STM32 (CORTEX™-M4)

The ARM® Cortex™-M4-based STM32 F4 series is an extension of the industry-leading STM32 portfolio towards even higher performance. Like the STM32 F2 series, these MCUs leverage ST's 90 nm NVM technology and ST's ART Accelerator™ to reach the industry's highest benchmark scores for Cortex-M-based microcontrollers with 210 DMIPS at 168 MHz operating frequency. The DSP instructions and the floating point unit enlarge the range of addressable applications. The STM32 F4 series is the result of a perfect symbiosis of the real-time control capabilities of an MCU and the signal processing performance of a DSP, and thus complements the STM32 portfolio with a new class of devices, digital signal controllers (DSC).

NEW! TECHNOLOGY

RoHS Compliant

**For quantities greater than listed, call for quote.**

| MOUSER STOCK NO. Mfr. | Mfr. Part No. | Package | Prog. (Bytes) | RAM (Bytes) | A/D Converter | D/A Converter | Serial Interface | I/Os (High Current) | Supply Voltage | Price Each 1 | 10 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 511 | STM32F407VET6 | LQFP-100 | 512KB | 192KB | 16x12-bit | 2x12-bit | 3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO | 140 | 1.8 | 7.96 | 7.51 | 7.21 |
| 511 | STM32F405RGT6 | LQFP-64 | 1MB | 192KB | 16x12-bit | 2x12-bit | 3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO | 51 | 1.8 | 14.40 | 13.08 | 11.12 |
| 511 | STM32F407VGT6 | LQFP-100 | 1MB | 192KB | 16x12-bit | 2x12-bit | 3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO | 140 | 1.8 | 17.00 | 15.40 | 13.12 |
| 511 | STM32F415RGT6 | LQFP-64 | 1MB | 192KB | 16x12-bit | 2x12-bit | 3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO | 51 | 1.8 | 10.10 | 9.54 | 9.16 |
| 511 | STM32F417VGT6 | LQFP-100 | 1MB | 192KB | 16x12-bit | 2x12-bit | 3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO | 82 | 1.8 | 11.24 | 10.60 | 10.18 |
| 511 | STM32F407IGH6 | UFBGA-176 | 1MB | 192KB | 24X12-bit | 2x12-bit | 3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO | 140 | 1.8 | 19.52 | 17.72 | 15.05 |
| 511 | STM32F407IGT6 | LQFP-176 | 1MB | 192KB | 24X12-bit | 2x12-bit | 3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO | 140 | 1.8 | 21.76 | 19.78 | 16.81 |
| 511 | STM32F407ZGT6 | LQFP-144 | 1MB | 192KB | 24X12-bit | 2x12-bit | 3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO | 114 | 1.8 | 18.50 | 16.88 | 14.32 |
| 511 | STM32F417IGH6 | UFBGA-176 | 1MB | 192KB | 24X12-bit | 2x12-bit | 3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO | 140 | 1.8 | 13.71 | 12.94 | 12.43 |
| 511 | STM32F417IGT6 | LQFP-176 | 1MB | 192KB | 24X12-bit | 2x12-bit | 3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO | 140 | 1.8 | 14.34 | 13.55 | 13.00 |
| 511 | STM32F417ZGT6 | LQFP-144 | 1MB | 192KB | 24X12-bit | 2x12-bit | 3xSPI/2xI2C/3xUSART/IrDa/3xUART/1xUSB OTG (FS/HS)/2xCAN/SDIO | 114 | 1.8 | 13.04 | 12.31 | 11.83 |

## DEVELOPMENT TOOLS

NEW! TECHNOLOGY

**For quantities greater than listed, call for quote.**

| MOUSER STOCK NO. Mfr. | Mfr. Part No. | Description | Price Each |
|---|---|---|---|
| 511 | STM32F4DISCOVERY | Based on the STM32F407VGT6, it includes an ST-LINK/V2 embedded debug tool, two ST MEMS, digital accelerometer and digital microphone, one audio DAC with integrated class D speaker driver, LEDs and push buttons and an USB OTG micro-AB connector | 16.25 |
| 511 | STM3240G-EVAL | Evaluation board is a complete demonstration and development platform for the STM32 F4 series and includes an STM32F407IGH6 high-performance ARM® Cortex™-M4F 32-bit microcontroller. | 348.00 |
| 511 | STM3241G-EVAL | Evaluation board is a complete demonstration and development platform for the STM32 F4 series and includes an STM32F417IGH6 high-performance ARM® Cortex™-M4F 32-bit microcontroller with a cryptographic acceleration cell. | 348.00 |

## STM32 (CORTEX™-M3)

The STM32 family of 32-bit Flash Microcontrollers is based on the breakthrough ARM Cortex™-M3 core - a core specifically developed for embedded applications. The STM32 family benefits from the Cortex-M3 architectural enhancements including the Thumb-2 instruction set to deliver improved performance with better code density, significantly faster response to interrupts, all combined with industry leading power consumption. ST is now the first leading MCU supplier to introduce a product family based on this core. The STM32 family is built to offer new degrees of freedom to MCU users. It offers a complete 32-bit product range that combines high performance, low power and low voltage, while maintaining full integration and ease of development.

RoHS Compliant

PRODUCT NEW

**For quantities greater than listed, call for quote.**

| MOUSER STOCK NO. Mfr. | Mfr. Part No. | Package | Prog. (Bytes) | RAM (Bytes) | A/D Converter | Serial Interface | I/Os (High Current) | Supply Voltage | Price Each 1 | 10 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 511 | STM32F100C4T6B | LQFP-48 | 16KB | 4KB | 1x10-bit ADC, 1x5-bit timer | 2xUSART, 1xSPI, 1xI2C, 2x12-bit DAC | 37 (37) | 2.0 to 3.6 | 2.73 | 2.30 | 1.97 |
| 511 | STM32F100R4T6B | LQFP-64 | 16KB | 4KB | 1x16-bit ADC, 1x5-bit timer | 2xUSART, 1xSPI, 1xI2C, 2x12-bit DAC | 51 (51) | 2.0 to 3.6 | 2.80 | 2.45 | 2.04 |
| 511 | STM32F100C6T6B | LQFP-48 | 32KB | 4KB | 1x10-bit ADC, 1x5-bit timer | 2xUSART, 1xSPI, 1xI2C, 2x12-bit DAC | 37 (37) | 2.0 to 3.6 | 2.85 | 2.50 | 2.08 |
| 511 | STM32F100R6T6B | LQFP-64 | 32KB | 4KB | 1x16-bit ADC, 1x5-bit timer | 2xUSART, 1xSPI, 1xI2C, 2x12-bit DAC | 51 (51) | 2.0 to 3.6 | 3.19 | 2.58 | 2.34 |
| 511 | STM32F100C8T6B | LQFP-48 | 64KB | 8KB | 1x10-bit ADC, 1x6-bit timer | 3xUSART, 2xSPI, 1xI2C, 2x12-bit DAC | 37 (37) | 2.0 to 3.6 | 3.84 | 3.08 | 2.80 |
| 511 | STM32F100V8T6B | LQFP-100 | 64KB | 8KB | 1x16-bit ADC, 1x6-bit timer | 3xUSART, 2xSPI, 1xI2C, 2x12-bit DAC | 80 (80) | 2.0 to 3.6 | 4.68 | 4.17 | 3.75 |
| 511 | STM32F100VBT6B | LQFP-100 | 64KB | 8KB | 1x16-bit ADC, 1x65-bit timer | 3xUSART, 2xSPI, 1xI2C, 2x12-bit DAC | 80 (80) | 2.0 to 3.6 | 5.15 | 4.60 | 4.14 |
| 511 | STM32F101C8T6 | LQFP-48 | 64KB | 10KB | 1x12-bit ADC, 3x16-bit timer | 3xUSART, 2xSPI, 2xI2C | 32 (32) | 2.0 to 3.6 | 6.60 | 5.90 | 4.85 |
| 511 | STM32F103T8U6 | VFQFPN-36 | 64KB | 20KB | 2x16-bit ADC, 2x24-bit timer | 2xSPI, 2xI2C, 3xUSART, IrDA/IS078/LIN | 26 (26) | 2.0 to 3.6 | 6.44 | 6.34 | 5.53 |
| 511 | STM32F105R8T6 | LQFP-64 | 64KB | 20KB | 2x16-bit ADC, 4x16-bit timer | OGT, 5xUSART, 3xSPI, 2xI2C, USB/2CAN, PWM | 51 (80) | 2.0 to 3.6 | 9.15 | 8.23 | 6.75 |
| 511 | STM32F103C8T6 | LQFP-48 | 64KB | 64KB | 2x12-bit ADC, 3x16-bit timer | 3xUSART, 2xSPI, 2xI2C, PWM timer, USB/CAN | 32 (32) | 2.0 to 3.6 | 8.13 | 7.30 | 6.00 |
| 511 | STM32F103R8T6 | LQFP-64 | 64KB | 64KB | 2x12-bit ADC, 3x16-bit timer | 3xUSART, 2xSPI, 2xI2C, PWM timer, USB/CAN | 49 (49) | 2.0 to 3.6 | 8.73 | 7.85 | 6.42 |
| 511 | STM32F103V8T6 | LQFP-100 | 64KB | 64KB | 2x12-bit ADC, 3x16-bit timer | 3xUSART, 2xSPI, 2xI2C, PWM timer, USB/CAN | 80 (80) | 2.0 to 3.6 | 9.80 | 8.52 | 7.21 |
| 511 | STM32F100CBT6B | LQFP-48 | 128KB | 8KB | 1x10-bit ADC, 1x6-bit timer | 3xUSART, 2xSPI, 1xI2C, 2x12-bit DAC | 37 (37) | 2.0 to 3.6 | 4.42 | 3.90 | 3.22 |
| 511 | STM32F100RBT6B | LQFP-64 | 128KB | 8KB | 1x16-bit ADC, 1x6-bit timer | 3xUSART, 2xSPI, 1xI2C, 2x12-bit DAC | 51 (51) | 2.0 to 3.6 | 4.79 | 4.25 | 3.50 |
| 511 | STM32F105RBT6 | LQFP-64 | 128KB | 64KB | 2x16-bit ADC, 4x16-bit timer | OGT, 5xUSART, 3xSPI, 2xI2C, USB/2CAN, PWM | 51 (80) | 2.0 to 3.6 | 10.65 | 9.55 | 7.84 |
| 511 | STM32F105VBT6 | LQFP-100 | 128KB | 64KB | 2x16-bit ADC, 4x16-bit timer | OGT, 5xUSART, 3xSPI, 2xI2C, USB/2CAN, PWM | 51 (80) | 2.0 to 3.6 | 11.90 | 10.71 | 8.80 |
| 511 | STM32F101CBT6 | LQFP-48 | 128KB | 128KB | 1x12-bit ADC, 3x16-bit timer | 3xUSART, 2xSPI, 2xI2C, PWM timer, USB/CAN | 80 (80) | 2.0 to 3.6 | 8.13 | 7.30 | 5.98 |
| 511 | STM32F101RBT6 | LQFP-64 | 128KB | 128KB | 1x12-bit ADC, 3x16-bit timer | 3xUSART, 2xSPI, 2xI2C | 49 (49) | 2.0 to 3.6 | 8.53 | 7.67 | 6.30 |
| 511 | STM32F103CBT6 | LQFP-48 | 128KB | 128KB | 2x12-bit ADC, 4x16-bit timer | 3xUSART, 2xSPI, 2xI2C, PWM timer, USB/CAN | 80 (80) | 2.0 to 3.6 | 9.60 | 8.64 | 7.07 |
| 511 | STM32F103RBT6 | LQFP-64 | 128KB | 128KB | 2x12-bit ADC, 3x16-bit timer | 3xUSART, 2xSPI, 2xI2C, PWM timer, USB/CAN | 49 (49) | 2.0 to 3.6 | 10.15 | 9.10 | 7.50 |
| 511 | STM32F103RCT6 | LQFP-64 | 256KB | 48KB | 3x12-bit ADC, 8x16-bit timer | 2xUSART, 3xSPI, 2x12C, USB/CAN | 51 (51) | 2.0 to 3.6 | 11.20 | 10.18 | 8.65 |
| 511 | STM32F103VCT6 | LQFP-100 | 256KB | 48KB | 3x12-bit ADC, 8x16-bit timer | 5xUSART, 3xSPI, 2x12C, SDIO, USB/CAN | 80 (80) | 2.0 to 3.6 | 12.25 | 11.12 | 9.45 |
| 511 | STM32F105RCT6 | LQFP-64 | 256KB | 64KB | 2x16-bit ADC, 4x16-bit timer | OGT, 5xUSART, 3xSPI, 2xI2C, USB/2CAN, PWM | 51 (80) | 2.0 to 3.6 | 11.30 | 10.28 | 8.75 |
| 511 | STM32F105VCT6 | LQFP-100 | 256KB | 64KB | 2x16-bit ADC, 4x16-bit timer | OGT, 5xUSART, 3xSPI, 2xI2C, USB/2CAN, PWM | 51 (80) | 2.0 to 3.6 | 12.40 | 11.30 | 9.60 |
| 511 | STM32F107RCT6 | LQFP-64 | 256KB | 64KB | 2x16-bit ADC, 4x16-bit timer | OGT, 5xUSART, 3xSPI, 2xI2C, USB/2CAN, PWM | 51 (80) | 2.0 to 3.6 | 12.43 | 11.31 | 9.61 |
| 511 | STM32F107VCT6 | LQFP-100 | 256KB | 64KB | 2x16-bit ADC, 4x16-bit timer | OGT, 5xUSART, 3xSPI, 2xI2C, USB/2CAN, PWM | 51 (80) | 2.0 to 3.6 | 13.68 | 12.44 | 10.57 |
| 511 | STM32F103VDT6 | LQFP-100 | 384KB | 64KB | 3x12-bit ADC, 8x16-bit timer | 5xUSART, 3xSPI, 2xI2S, PWM, SDIO, USB/CAN | 80 (80) | 2.0 to 3.6 | 13.72 | 12.33 | 10.62 |
| 511 | STM32F103RET6 | LQFP-64 | 512KB | 64KB | 3x12-bit ADC, 4x16-bit timer | 5xUSART, 2xSPI, 2xI2C, 1xI2S, USB/CAN | 51 (51) | 2.0 to 3.6 | 14.52 | 13.20 | 11.20 |
| 511 | STM32F103VET6 | LQFP-100 | 512KB | 64KB | 3x12-bit ADC, 4x16-bit timer | 5xUSART, 2xSPI, 2xI2C, SDIO, USB/CAN | 80 (80) | 2.0 to 3.6 | 15.40 | 14.00 | 11.90 |
| 511 | STM32F103ZEH6 | LFBGA-144 | 512KB | 64KB | 3x12-bit ADC, 8x16-bit timer | 5xUSART, 3xSPI, 2xI2C, SDIO, USB/CAN | 112 (112) | 2.0 to 3.6 | 16.90 | 15.35 | 13.02 |
| 511 | STM32F103ZET6 | LQFP-144 | 512KB | 64KB | 3x12-bit ADC, 4x16-bit timer | 5xUSART, 2xSPI, 2xI2C, 1xI2S, USB/CAN | 112 (112) | 2.0 to 3.6 | 16.90 | 15.32 | 13.02 |
| 511 | STM32F103VFT6 | LQFP-100 | 768KB | 96KB | 3x12-bit ADC, 10x16-bit timer | 5xUSART, 3xSPI, 2xI2C, USB, CAN, SDIO, PWM | 80 (80) | 2.0 to 3.6 | 12.66 | 11.51 | 9.78 |
| 511 | STM32F103RGT6 | LQFP-64 | 1MB | 96KB | 3x12-bit ADC, 10x16-bit timer | 5xUSART, 3xSPI, 2xI2C, USB, CAN, SDIO, PWM | 51 (51) | 2.0 to 3.6 | 15.91 | 14.64 | 13.37 |
| 511 | STM32F103VGT6 | LQFP-100 | 1MB | 96KB | 3x12-bit ADC, 10x16-bit timer | 5xUSART, 3xSPI, 2xI2C, USB, CAN, SDIO, PWM | 80 (80) | 2.0 to 3.6 | 14.80 | 13.40 | 11.40 |
| 511 | STM32F103ZGT6 | LQFP-144 | 1MB | 96KB | 3x12-bit ADC, 10x16-bit timer | 5xUSART, 3xSPI, 2xI2C, USB, CAN, SDIO, PWM | 112 (112) | 2.0 to 3.6 | 18.48 | 16.95 | 15.52 |

## DEVELOPMENT TOOLS

PRODUCT NEW

**For quantities greater than listed, call for quote.**

| MOUSER STOCK NO. Mfr. | Mfr. Part No. | Description | Price Each |
|---|---|---|---|
| 511 | STM32L152-EVAL | Complete hardware emulation platforms with the STM32L152, implementing the full range of device peripherals and features | 249.00 |
| 511 | STM32L-DISCOVERY | Includes a 6-digit LCD display, one touch-sensing slider, 2 LEDs, 1 user button, current measurement and the embedded debugger (ST-LINK/V2). | 14.95 |
| 511 | STM32VLDISCOVERY | Includes an STM32F100 and an in-circuit ST-Link debugger/programmer to debug Discovery applications and other target board applications. | 11.85 |
| 511 | STM32100B-EVAL | STM32F100V EVB w/HDMI CEC, 2xI2C, 2 SPI channels, 3 USART channels, 8 KB SRAM, 128 KB internal Flash, JTAG & SWD debugging. | 235.00 |
| 511 | STM3210B-MCKIT | Starter kit (w/STM32F103xV) provides a complete development platform for motor control applications | 1477.73 |
| 511 | STM3210E-EVAL | 512K version of complete hardware evaluation platform with the STM32F103, implementing the full range of device peripherals and features. | 248.75 |
| 511 | STM3210C-EVAL | Complete Connectivity Platform with USB-OTG, MAC, 2 CAN2.0, 2I2C, 5 USART, Smartcard, SPI, JTAG, SWD and Debugging Support | 298.75 |
| 511 | STM32-COMSTICK | Complete low-cost Hitex evaluation supporting 10/100 ethernet, USB 2.0, Full-speed device/host/OTG with on-chip PHY and CAN | 100.80 |
| 511 | STEVAL-IPC003V1 | Demonstration board is a thermal printer adapter board for the STM3210C_EVAL and offers a solution for parking ticket vending machines. | 65.00 |



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