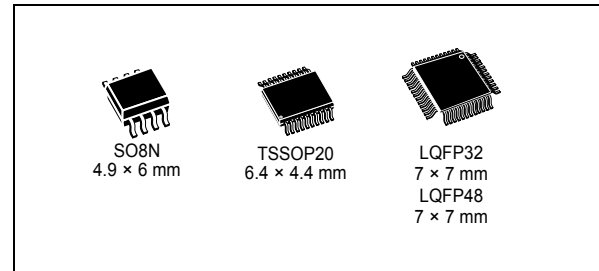


Arm® Cortex®-M0+ 32-bit MCU, up to 64 KB Flash, 8 KB RAM,
2x USART, timers, ADC, comm. I/Fs, 2.0-3.6V

Datasheet - production data

Features

- Core: Arm® 32-bit Cortex®-M0+ CPU, frequency up to 64 MHz
- -40°C to 85°C operating temperature
- Memories
 - Up to 64 Kbytes of Flash memory with protection
 - 8 Kbytes of SRAM with HW parity check
- CRC calculation unit
- Reset and power management
 - Voltage range: 2.0 V to 3.6 V
 - Power-on/Power-down reset (POR/PDR)
 - Low-power modes: Sleep, Stop, Standby
 - V_{BAT} supply for RTC and backup registers
- Clock management
 - 4 to 48 MHz crystal oscillator
 - 32 kHz crystal oscillator with calibration
 - Internal 16 MHz RC with PLL option
 - Internal 32 kHz RC oscillator (±5 %)
- Up to 44 fast I/Os
 - All mappable on external interrupt vectors
 - Multiple 5 V-tolerant I/Os
- 5-channel DMA controller with flexible mapping
- 12-bit, 0.4 µs ADC (up to 16 ext. channels)
 - Up to 16-bit with hardware oversampling
 - Conversion range: 0 to 3.6V
- 8 timers: 16-bit for advanced motor control, four 16-bit general-purpose, two watchdogs, SysTick timer
- Calendar RTC with alarm and periodic wakeup from Stop/Standby



- Communication interfaces
 - Two I²C-bus interfaces supporting Fast-mode Plus (1 Mbit/s) with extra current sink, one supporting SMBus/PMBus and wakeup from Stop mode
 - Two USARTs with master/slave synchronous SPI; one supporting ISO7816 interface, LIN, IrDA capability, auto baud rate detection and wakeup feature
 - Two SPIs (32 Mbit/s) with 4- to 16-bit programmable bitframe, one multiplexed with I²S interface
- Development support: serial wire debug (SWD)
- All packages ECOPACK 2 compliant

Table 1. Device summary

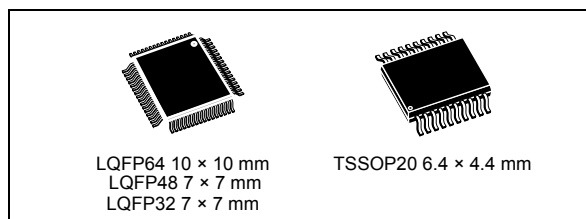
Reference	Part number
STM32G030x6	STM32G030C6, STM32G030F6, STM32G030J6, STM32G030K6
STM32G030x8	STM32G030C8, STM32G030K8

Value-line Arm[®]-based 32-bit MCU with up to 256 KB Flash, timers, ADC, communication interfaces, 2.4-3.6 V operation

Datasheet - production data

Features

- Core: Arm[®] 32-bit Cortex[®]-M0 CPU, frequency up to 48 MHz
- Memories
 - 16 to 256 Kbytes of Flash memory
 - 4 to 32 Kbytes of SRAM with HW parity
- CRC calculation unit
- Reset and power management
 - Digital & I/Os supply: $V_{DD} = 2.4 \text{ V to } 3.6 \text{ V}$
 - Analog supply: $V_{DDA} = V_{DD} \text{ to } 3.6 \text{ V}$
 - Power-on/Power down reset (POR/PDR)
 - Low power modes: Sleep, Stop, Standby
- Clock management
 - 4 to 32 MHz crystal oscillator
 - 32 kHz oscillator for RTC with calibration
 - Internal 8 MHz RC with x6 PLL option
 - Internal 40 kHz RC oscillator
- Up to 55 fast I/Os
 - All mappable on external interrupt vectors
 - Up to 55 I/Os with 5V tolerant capability
- 5-channel DMA controller
- One 12-bit, 1.0 μs ADC (up to 16 channels)
 - Conversion range: 0 to 3.6 V
 - Separate analog supply: 2.4 V to 3.6 V
- Calendar RTC with alarm and periodic wakeup from Stop/Standby
- 11 timers
 - One 16-bit advanced-control timer for six-channel PWM output
 - Up to seven 16-bit timers, with up to four IC/OC, OCN, usable for IR control decoding
 - Independent and system watchdog timers
 - SysTick timer



- Communication interfaces
 - Up to two I²C interfaces
 - Fast Mode Plus (1 Mbit/s) support on one or two I/Fs, with 20 mA current sink
 - SMBus/PMBus support (on single I/F)
 - Up to six USARTs supporting master synchronous SPI and modem control; one with auto baud rate detection
 - Up to two SPIs (18 Mbit/s) with 4 to 16 programmable bit frames
- Serial wire debug (SWD)
- All packages ECOPACK[®]2

Table 1. Device summary

Reference	Part number
STM32F030x4	STM32F030F4
STM32F030x6	STM32F030C6, STM32F030K6
STM32F030x8	STM32F030C8, STM32F030R8
STM32F030xC	STM32F030CC, STM32F030RC

8 Ordering information

Example:	STM32	F	030	C	6	T	6	x																
Device family	STM32 = Arm-based 32-bit microcontroller																							
Product type									F = General-purpose															
Sub-family	030 = STM32F030xx																							
Pin count									F = 20 pins K = 32 pins C = 48 pins R = 64 pins															
Code size	4 = 16 Kbyte of Flash memory 6 = 32 Kbyte of Flash memory 8 = 64 Kbyte of Flash memory C = 256 Kbyte of Flash memory																							
Package																	P = TSSOP T = LQFP							
Temperature range																								
Option									xxx = programmed parts TR = tape and reel															

For a list of available options (memory, package, and so on) or for further information on any aspect of this device, please contact your nearest ST sales office.