ARM MCU, SAM D Series, SAM32 Family SAM D1X Series Microcontrollers, ARM Cortex-M0+, 32bit, 48 MHz

Manufacturers	Microchip Technology, Inc
Package/Case	SOIC-20
Product Type	Embedded Processors & Controllers
RoHS	
Lifecycle	

Images are for reference only

Please submit RFQ for ATSAMD10D14A-SSUT or Email to us: sales@ovaga.com We will contact you in 12 hours.   RFQ

General Description

A low-power, high-performance ARM® Cortex®-M0+ based flash microcontroller, the Microchip'sATSAMD10D14 is ideal for a wide range of home automation, consumer, metering and industrial applications. It features:

16KB of flash memory and 4KB of SRAM

Up to 48MHz operating frequency

Three serial communication modules (SERCOM) configurable as UART/USART, SPI or I2C, two 16-bit timer/counters, 32-bit Real-Time Clock and calendar, 12 PWM channels, one 8- or 10-channel 12-bit ADC, one 10-bit DAC

Supports 7/12 self-capacitance touch channels in low/high pincount devices

Supports 72 mutual-capacitance touch channels

1.62V to 3.63V power supply

Easy pin migration to SAMD10C devices

Supported by Atmel Studio, ASF, and the SAM D10 Xplained Mini kit

Supported by MPLAB X IDE and MPLAB Harmony.

Features

Processor

ARM Cortex-M0+ CPU running at up to 48MHz

Single-cycle hardware multiplier

Micro Trace Buffer

Memories

16KB in-system self-programmable Flash

4KB SRAM Memory

System

Power-on reset (POR) and brown-out detection (BOD)

Internal and external clock options with 48MHDigital Frequency Locked Loop (DFLL48M) and 48MHto 96MHFractional

Digital Phase Locked Loop (FDPLL96M)

External Interrupt Controller (EIC)

8 external interrupts

One non-maskable interrupt

Two-pin Serial Wire Debug (SWD) programming, test and debugging interface

Low Power

Idle and standby sleep modes

SleepWalking peripherals

Peripherals

6-channel Direct Memory Access Controller (DMAC)

6-channel Event System

Two 16-bit Timer/Counters (TC), configurable as either:

One 16-bit TC with compare/capture channels

One 8-bit TC with compare/capture channels

One 32-bit TC with compare/capture channels, by using two TCs

One 24-bit Timer/Counters for Control (TCC), with extended functions:

Up to four compare channels with optional complementary output

Generation of synchronized pulse width modulation (PWM) pattern across port pins

Deterministic fault protection, fast decay and configurable dead-time between complementary output

Dithering that increase resolution with up to 5 bit and reduce quantization error

32-bit Real Time Counter (RTC) with clock/calendar function

Watchdog Timer (WDT)

CRC-32 generator

Three Serial Communication Interfaces (SERCOM), each configurable to operate as either:

USART with full-duplex and single-wire half-duplex configuration

I2C Bus up to 3.4MHz

SMBUS/PMBUS

SPI

LIN slave

12-bit, 350ksps Analog-to-Digital Converter (ADC) with up to 10 channels

Differential and single-ended input

1/2x to 16x programmable gain stage

Automatic offset and gain error compensation

Oversampling and decimation in hardware to support 13-, 14-, 15- or 16-bit resolution

10-bit, 350ksps Digital-to-Analog Converter (DAC)

Two Analog Comparators (AC) with window compare function

Peripheral Touch Controller (PTC)

Up to 72-channel capacitive touch and proximity sensing
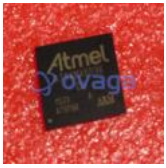
I/O

Up to 22 GPIO pins

Packages

24-pin QFN

20-pin SOIC

20-pin WLCSP

Operating Voltage

1.62V – 3.63V

Related Products

[ATSAMA5D36A-CU](#)

Microchip Technology, Inc

LFBGA-324

[ATMEGA32M1-AU](#)

Microchip Technology, Inc

TQFP-32
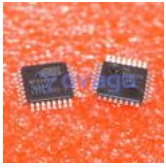
[ATXMEGA128D3-AU](#)

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TQFP-64

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