Low Power Advanced Security Capabilities MPU

Manufacturer:	Microchip Technology, Inc
Package/Case:	TFBGA-196
Product Type:	Embedded Processors & Controllers
RoHS:	RoHS Compliant/Lead free
Lifecycle:	Active
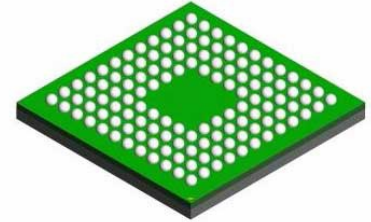
Images are for reference only

Inquiry

General Description

The SAMA5D22 is a high-performance, low-powerArm Cortex-A5 CPU-based embedded microprocessor (MPU) running up to 500 MHz,with support for multiple memories such as DDR2, DDR3L, LPDDR2, LPDDR3, andQSPI and e.MMC Flash. The device integrates powerful peripherals forconnectivity and user interface applications, and offers advanced securityfunctions (Arm TrustZone® , tamper detection, secure data storage, secure boot,etc.), as well as high-performance crypto accelerators AES, SHA and TRNG.

The SAMA5D22is qualified for extended industrial temperature range operation (-40°C to105°C external temperature).

The SAMA5D2 series is delivered withfree Linux® distributions, MPLAB X IDE, MPLAB Harmony v3 and bare metal Cexamples.

Microchip provides fully tested andvalidated power management solutions complying with the SAMA5D22 specific powersequencing needs for various supply and DRAM configurations-enabling arisk-free solution immediately on first power-up. Go to the Treelinktool ->DC/DC converters and select SAMA5D2 to find more details.

Key Features

Low System Cost and High Value Integration:

Peripheral Touch Controller

Embedded audio subsystem

0.8mm ball pitch package reduces PCB design complexity

Simple power management scheme

Ultra-Low Power Consumption:

Low-power architecture for extensive battery life

5uA in backup mode

State-of-the-Art Security:

Secure Boot

Execution of encrypted code with an "on-the-fly" encryption-decryption process

Integrity Check Monitor of the memory content

Hardware encryption engine

Tamper pins and secure key storage

Extensive Ecosystem:

Free Linux® distributions

MPLAB X Integrated Development Environment

MPLAB Harmony 3

Complete set of C examples for bare metal users

Multiple third-party software and hardware partners

Recommended For You

ATmega8-16PU	**ATmega162-16PU**	**AT91RM9200-CJ-002**
Microchip Technology, Inc	Microchip Technology, Inc	Microchip Technology, Inc
DIP	DIP40	BGA
AT89C2051-12PU	**ATmega8515L-8PU**	**AT91SAM9G20B-CFU**
Microchip Technology, Inc	Microchip Technology, Inc	Microchip Technology, Inc
DIP	DIP	247-TFBGA

ATtiny20-XUR	**AT89LS52-16PU**	**ATtiny12L-4SUR**
Microchip Technology, Inc	Microchip Technology, Inc	Microchip Technology, Inc
TSSOP14	DIP	SOP8

ATmega324PA-PU	**ATmega8535-16JU**	**ATtiny44A-PU**
Microchip Technology, Inc	Microchip Technology, Inc	Microchip Technology, Inc
PDIP	PLCC44	DIP

AT89C5131A-S3SUM	**ATmega162V-8PU**	**AT89C5115-SISUM**
Microchip Technology, Inc	Microchip Technology, Inc	Microchip Technology, Inc
PLCC52	DIP40	PLCC-28