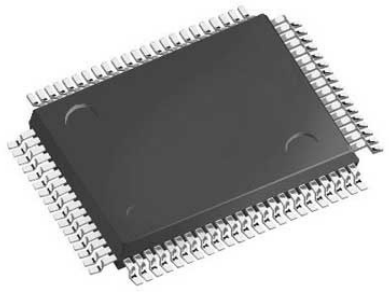
AT91RM9200-QU-002

Low Power Advanced Security Capabilities MPU

Manufacturer:	Microchip Technology, Inc
Package/Case:	QFP208
Product Type:	Embedded Processors & Controllers
RoHS:	RoHS Compliant/Lead free
Lifecycle:	Active



Images are for reference only

Inquiry

General Description

The ARM®-based SAM920T runsup to 180 MHz and embeds Full Speed USB host and device interfaces, a 10/100Ethernet MAC, as well as standard peripherals such as a Multimedia CardInterface (MCI), I2S, USARTs, master/slave SPIs, 16-bit Timers and a TWI(Two-Wire Interface). The external bus interface features controllers for SDRAMand static memories including NAND flash and CompactFlash. The RM9200 isavailable in 256-ball LFBGA and 208-pin QFP packages.

Key Features

Core:

ARM920T ARM Thumb Processor running up to 180 MHz

16-Kbyte Data Cache, 16-Kbyte Instruction Cache

Memory Management Unit

Embedded Trace Module (256 LFBGA Package only)

Memories:

16 Kbytes of SRAM, single-cycle access

128 Kbytes of ROM embedding standard bootstrap

32-bit External Bus Interface (EBI) supporting SDRAM, Static Memory, Burst Flash, Glueless Connection to CompactFlash® and NAND Flash/SmartMedia®

Peripherals:

Enhanced Clock Generator and Power Management Controller

Two On-chip Oscillators with Two PLLs

Very Slow Clock Operating Mode and Software Power Optimization Capabilities

Four Programmable External Clock Signals

System Timer Including Periodic Interrupt, Watchdog and Second Counter

Real-time Clock with Alarm Interrupt

Debug Unit, Two-wire UART and Support for Debug Communication Channel

Advanced Interrupt Controller with 8-level Priority, Individually Maskable Vectored Interrupt Sources, SpuriousInterrupt Protected

Seven External Interrupt Sources and One Fast Interrupt Source

Four 32-bit PIO Controllers with Up to 122 Programmable I/O Lines, Input Change Interrupt and Open-drain Capability on Each Line

20-channel Peripheral DMA Controller (PDC)

Ethernet MAC 10/100 Base-T:

Media Independent Interface (MII) or Reduced Media Independent Interface (RMII)

Integrated 28-byte FIFOs and Dedicated DMA Channels for Receive and Transmit

USB 2.0 Full Speed (12Mbits per second) Host Double Port:

Dual On-chip Transceivers (Single Port Only on 208-lead PQFP Package)

Integrated FIFOs and Dedicated DMA Channels

USB 2.0 Full Speed (12Mbits per second) Device Port:

On-chip Transceiver, 2-Kbyte Configurable Integrated FIFOs

Multimedia Card Interface (MCI):

Automatic Protocol Control and Fast Automatic Data Transfers

MMC and SD Memory Card-compliant, Supports Up to Two SD Memory Cards

Three Synchronous Serial Controllers (SSC):

Independent Clock and Frame Sync Signals for Each Receiver and Transmitter

I2S Analog Interface Support, Time Division Multiplex Support

High-speed Continuous Data Stream Capabilities with 32-bit Data Transfer

Four Universal Synchronous/Asynchronous Receiver/Transmitters (USART):

Support for ISO7816 T0/T1 Smart Card

Hardware Handshaking

RS485 Support, IrDA® Up To 115 Kbps

Full Modem Control Lines on USART1

Master/Slave Serial Peripheral Interface (SPI):

8- to 16-bit Programmable Data Length

4 External Peripheral Chip Selects

Two 3-channel, 16-bit Timer/Counters (TC):

Three External Clock Inputs

Two Multi-purpose I/O Pins per Channel

Double PWM Generation, Capture/Waveform Mode, Up/Down Capability

Two-wire Interface (TWI):

Master Mode Support, All 2-wire Microchip EEPROMs Supported

IEEE® 1149.1 JTAG Boundary Scan on All Digital Pins

Power Supplies:

1.65V to 1.95V for VDDCORE, VDDOSC and VDDPLL

3.0V to 3.6V for VDDIOP (Peripheral I/Os) and for VDDIOM (Memory I/Os)

Low Power: On VDDCORE 24.4 mA in Normal Mode, 520 µA in Standby Mode

Packages:

208-pin Green PQFP

256-ball RoHS-compliant LFBGA

Recommended For You

ATmega8-16PU

Microchip Technology, Inc

DIP

ATmega162-16PU

Microchip Technology, Inc

DIP40

AT91RM9200-CJ-002

Microchip Technology, Inc

BGA

AT89C2051-12PU

Microchip Technology, Inc

DIP

ATmega8515L-8PU

Microchip Technology, Inc

DIP

AT91SAM9G20B-CFU

Microchip Technology, Inc

247-TFBGA

ATtiny20-XUR

Microchip Technology, Inc

TSSOP14

AT89LS52-16PU

Microchip Technology, Inc

DIP

ATtiny12L-4SUR

Microchip Technology, Inc

SOP8

ATmega324PA-PU

Microchip Technology, Inc

PDIP

ATmega8535-16JU

Microchip Technology, Inc

PLCC44

ATtiny44A-PU

Microchip Technology, Inc

DIP

AT89C5131A-S3SUM

Microchip Technology, Inc

PLCC52

ATmega162V-8PU

Microchip Technology, Inc

DIP40

AT89C5115-SISUM

Microchip Technology, Inc

PLCC-28