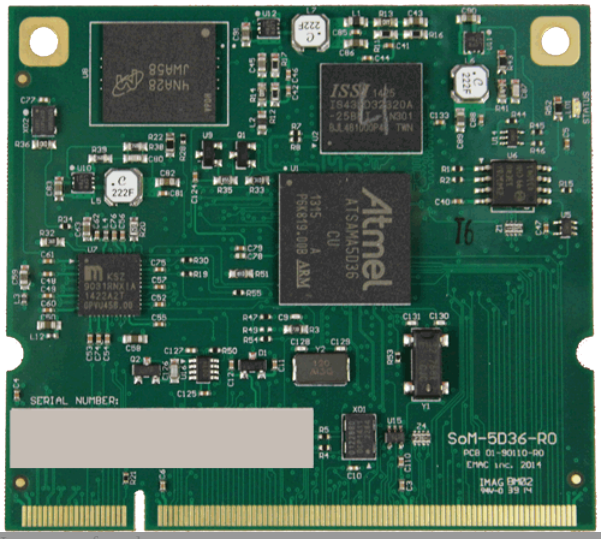
SoM-A5D36



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Small, 200 pin SODIMM form factor (2.66" x 2.375")

Atmel ARM Cortex A5 ATSAMA5D36 536Mhz Processor

Up to 4 GB of eMMC Flash

16MB of Serial Data Flash

Up to 512 MB of LP DDR2 RAM

5x serial ports

1x 10/100/1000 BaseT Ethernet with 2nd Ethernet MAC Available

2x 10/100 TI DP83640TVV/NOPB IEEE1588 PTP (Precision Time Protocol) V1 and V2 PHY on the SOM-A536P module

SOM-A536P supports up to two IEEE 1588 PTP network connections.

RMII interface available for additional 10/100 BaseT Carrier based PHY (providing Dual Ethernet)

2x USB 2.0 High Speed Host ports

1x USB 2.0 High Speed Host/Device port (OTG)

6x A/D Channels with 12-bit (0 to 3.3V)

4-wire Resistive Touch Controller

24-bit LCD Controller

External Address/Data Bus

Internal Real time clock/calendar (with external battery backup)

21 GPIO (3.3V) Lines

4x PWM Channels

5x Timer/Counters

2x Programmable Clock outputs

1x Synchronous Serial I/O (I2S) Audio Port

2x SPI Ports (3 SPI CS)

2x I2C Ports

2x CAN 2.0b Ports

External Reset Button provision and green Status (software controlled) LED

2x SDIO SD port

+3.3 volt board input voltage required

RoHS 2 (2011) compliance

The SoM-A5D36 is a System on Module (SoM) based on the Atmel ARM Cortex A5 ATSAMA5D36 processor. Designed and manufactured in the USA, this wide temperature, fanless ARM 536 MHz SoM has 10/100/1000 BaseT Ethernet PHY included on the SoM along with up to 6 serial ports. The SOM-A5D36 offers up to 4GB of eMMC Flash, up to 16MB of serial data flash, and up to 512MB of LP DDR2 RAM. The SoM-A5D36 and variations offer a second RMII 10/100 Ethernet MAC "EMAC" interface to use on the carrier board, to support a second LAN PHY. While also offering APM sleep mode, which allows for low power consumption, while still supporting real-time operating systems (RTOS) such as Xenomai. A SoM is a small embedded module that contains the core of a microprocessor system.

Using the same small 200 pin SODIMM form-factor utilized by other EMAC SoM modules, the SoM-A5D36 is the ideal processor engine for your next design. All of the ARM processor core functionality is included on this tiny board including: Flash, Memory, Serial Ports, Ethernet, I2S Audio, PWMs, Timer/Counters, A/D, digital I/O lines, Clock/Calendar, and more.

The SoM-A5D36 is designed to plug into a carrier board that contains all the connectors and any custom I/O required for the application.

requirements without having to worry about the processor, memory, and standard I/O functionality. With this System on Module approach, a semi-custom hardware platform can be developed in as little as a month.

The SoM-A536P option supports Realtime Ethernet on dual 10/100 BaseT network connections with IEEE 1588 Precision Time Protocol (PTP) V1 & V2 modes off the TI DP83640 Ethernet PHYs. This SoM provides two 10/100 clock synchronized network connections for real-time network operations. One of the TI DP83640 Ethernet PHY Chips is on the SOM module, the second is an RMII 10/100 Ethernet MAC "EMAC" connection provided to the carrier board for the second network PHY. This second EMAC is wired to a TI DP83640 Precision

PHYTER™ - IEEE 1588 Precision Time Protocol Transceiver on the SOM-215GS carrier board.

In addition to the option of developing a custom carrier board, one can be purchased off-the-shelf from EMAC. EMAC provides off-the-shelf Carrier boards that feature A/D, D/A, MMC/SD card, keypad, LCD, Audio, and Modem interfaces. The recommended off-the-shelf

Carrier Board for theSoM-A5D36 is the SoM-200GS which allows the user to immediately start coding their application using the powerful

Linux Operating System and Tools. The SOM-200GS carrier offers the availability of wireless features of 802.11 b/g/n WiFi and Bluetooth

3.0.

The System On Module approach provides the flexibility of a fully customized product at a greatly reduced cost.

Specifications

SOM Type:
Microcontroller SODIMM Modules

Processor
Processor:
Embedded Atmel ARM Cortex A5 ATSAMA5D36
Clock Speed:

536 MHz
Real Time Clock:

Memory

Primary Flash:
up to 4GB eMMC Flash
Secondary Flash:
16MB of Serial Data Flash

Primary I/O

GPIO:
21x GPIO (3.3V) Lines
SDIO:
2x SDIO SD Ports
Video Out:
12-bit 4-wire Analog LCD & Resistive Touch Interface
SPI:
2x SPI Ports (4x SPI CS)
Audio:
1x I2S Audio port
Ethernet:
10/100/1000 BaseT Ethernet with 2nd Ethernet MAC Available (up to 2 optional IEEE 1588 PTP)
USB:
2x USB 2.0 HS Host and 1x USB 2.0 HS OTG Ports
Serial Ports:
5x serial ports (1 with full handshake
3 with RTS/CTS handshake
1 with no handshake)
I2C:
2x I2C Ports
Watchdog:
Primary I/O Misc.:

The SOM-A536P supports up to two 10/100 IEEE1588 Precision Time Protocol MAC addresses. The SOM-A536P has the TI DP83640TVV/NOPB PTP Ethernet PHY onboard, then using a Carrier the SOM-215GS carrier supports a second TI DP83640TVV/NOPB IEEE 1588 Ethernet PHY, the SOM-212ES can support 1.

Secondary I/O

CAN:
2x CAN 2.0B Ports
Timers/ Counters/ PWM:
5x Timers/Counters / 4x PWM
LPT Port:
Keypad:
PS/2:
Touch:
12-Bit 4-wire Analog Resistive Touch Screen
Secondary I/O Misc.:
24-bit LCD Controller

4x PWM Channels

5x Timer/Counters

2x Programmable Clock outputs

External Reset Button provision and green Status (software controlled) LED

Analog on

A/D:

A/D Channels:

6

A/D Resolution:

12 bit (0 to 3.3V)

D/A:

Dimensions

Dimensions:

2.66 × 2.375 in

Form Factor:

200-pin SODIMM

Power Requirements

Voltage:

3.3 V

Environmental

Low Operating Temperature:

-40 C

High Operating Temperature:

85 C

Pricing

SoM-A5D36-140

ARM A5 VID/GbE+EMAC interface for Carrier PHY support for Dual LAN/USB/512MB RAM, 4GB eMMC, -40 to +85, RoHS

$150.00

Order:

0

Parent Product:

SoM-A5D36

Base Product:

SoM-A5D36

SoM-A536P-140

ARM A5 VID/IEEE1588 10/100 Network PHY+EMAC interface for Carrier PHY support for Dual LAN/USB/512MB RAM, 4GB eMMC, -40 to +85, RoHS

$165.00

Order:

0

Parent Product:

SoM-A5D36

Base Product:

SoM-A5D36

SOM-A536M-140

ARM A5 VID/ 10/100 Network PHY+ EMAC interface for Carrier PHY support for Dual LAN/USB/512MB RAM, 4GB eMMC, -40 to +85, RoH

$0.00

Build to Order

Order:

0

Parent Product:
SoM-A5D36
Base Product:
SoM-A5D36
Non-Stock NCNR:
0
Carrier Boards:
SoM-250GS-000
Standard Carrier Board with CAN, Audio, 7" LCD & Touch Screen, WiFi
$399.00
Base Product:
SoM-250GS
SoM-250GS-001
Deluxe Carrier Board with CAN, Audio, 10" LCD & Touch Screen, WiFi
$399.00
Base Product:
SoM-250GS
SoM-250GS-007
Bare-Bones Carrier Board with CAN, Audio, WiFi, without LCD
$250.00
Base Product:
SoM-250GS
SoM-200GS-000
Standard 200-pin Carrier with SD Card, Audio, CAN, PLD & 4.3" LCD
$245.00
Base Product:
SoM-200GS
SoM-200GS-001
Deluxe 200-pin Carrier with WiFi, Audio, CAN, PLD & 4.3" LCD, without SD Card Socket
$295.00
Base Product:
SoM-200GS
SoM-200GS-007
Bare Bones 200-pin Carrier w/SD Card & CAN, without Audio, PLD & LCD
$145.00
Base Product:
SoM-200GS
SoM-215GS-002
SoM-215GS 3x COM, 2x USB2, SOM PHY, 10/100 IEEE1588 PTP LAN, 4.3" LCD and bracket (Open frame Panel PC)
$0.00
Base Product:
SoM-215GS
SoM-215GS-000
SoM-215GS, 3x COM, 2x USB2, SOM PHY, 10/100 IEEE PTP LAN, NO LCD
$0.00
Base Product:
SoM-215GS
