

SoM-536EM



Small, 144 pin SODIMM form factor (2.66" x 1.5")

Blackfin hybrid RISC/DSP high performance core running at up 600 MHz

Low Power Consumption with Dynamic Power Management.

10/100BaseT Ethernet with on-board PHY

2 serial ports with handshake

1 CAN 2.0B port

1-Wire® Network provision

Up to 64 MB of SDRAM

Up to 4 MB of Flash

128K Bytes of Serial Flash

Battery backed Real Time Clock

SPI, I2S & I2C

Timer/Counters and Pulse Width Modulation (PWMs) port

Typical power requirement less than 1 Watt

JTAG for debug, including real-time trace

The SoM-536EM is Based on the Analog Devices Blackfin ADSP-BF536 processor. This embedded processor has an Ethernet MAC built in along with 3 serial ports. The BF536 combines a 32-bit RISC-like instruction set and dual 16-bit multiply accumulate (MAC) signal processing functionality with the ease-of-use attributes found in general-purpose microcontrollers. This combination of processing attributes enables Blackfin Processors to perform equally well in both signal processing and control processing applications. It is equipped with an MMU and can utilize uClinux Operating System with Real Time extensions.

A SoM (System on Module) is a small embedded module that contains the core of a microprocessor system. Using the same small SoM SODIMM form-factor utilized by other EMAC SoM modules, the SoM-536EM is the ideal processor engine for your next design. All of the Blackfin's processor core is included on this tiny board including: Flash, Memory, Serial Ports, Ethernet, CAN, PWMs, Timer/Counters, A/D, digital I/O lines, Clock/Calendar, and more.

The SoM-536EM is designed to plug into a carrier board that contains all the connectors and any custom I/O required for the application.

This approach allows the customer or EMAC to design a **Custom Carrier Board**, that meets the customer's I/O, dimensional, and connector

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.

In addition to the option of the developing a 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, and Modem interfaces. The off-the-shelf Carrier Board (**SoM-100ES**)

allows the user to immediately start coding their application using the powerful uClinux Operating System and Tools.

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

Embedded Blackfin BF536 processor

Clock Speed:

400 MHz

Real Time Clock:

Memory

BIOS/ Bootloader:

Resident Flash Bootloader (Das Uboot)

Primary Flash:

2 MB External Flash (4 MB Optional)

Secondary Flash:

512Kb of Internal Flash

Memory Misc.:

System Reset: Supervisor with external Reset Button provision

Battery Backed RAM: 64K

Primary I/O

GPIO.
24 General Purpose I/Os with 25 ma. drive when used as an output

SPI:

High-Speed SPI port with DMA

Serial Ports:

2 serial TTL level serial ports with a max. baud rate of 115K baud (each UART requires external RS level shifting)

I2C:

Bus Controller

Watchdog:

Secondary I/O

CAN.

Full CAN 2.0B

Timers/ Counters/ PWM:

8x 32-bit timers/counters with capture, compare, and DMA capability

LPT Port:

Keypad:

PS/2:

Secondary I/O Misc.:

I2S: Dual Channel High-Speed SPORTS supporting up to 8 I2S channels

Expansion

Bus Misc..

1-Wire®: 1-Wire® Bus Master capability

Analog

A/D.

D/A:

Dimensions

Dimensions.

2.66 × 1.5 in

Form Factor:

144-pin SODIMM

Power Requirements

Voltage.

3.3 V

Typical Current:

300 mA

Typical Voltage:

3.3 V

Environmental

Low Operating Temperature:
0 C
High Operating Temperature:
70 C
Upper Operating Humidity:
90%

Pricing
Non-Stock Minimum Order:
50
Non-Stock NCNR:
1

Carrier Boards:
SoM-100ES-000
Standard Carrier Board
\$150.00
Base Product:
SoM-100ES
SoM-100ES-030
Standard Carrier Board with A/D, D/A
\$250.00

Base Product:
SoM-100ES
SoM-100ES-007
Bare Bones Carrier Board
\$95.00

Base Product:
SoM-100ES

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