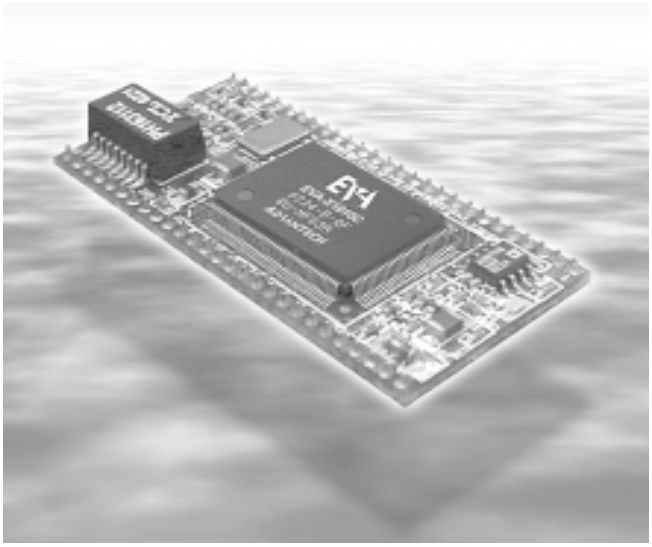
EVA-SOM1610

186-based Ethernet-enabled System On Module



Features

- **80C186 compatible, 16-Bit embedded microcontroller**
- **All-in-one CPU + Ethernet PHY + UART**
- **512 KB Flash and 512 KB SDRAM (up to 1 M)**
- **Dimensions: 55 x 26 mm**

Introduction

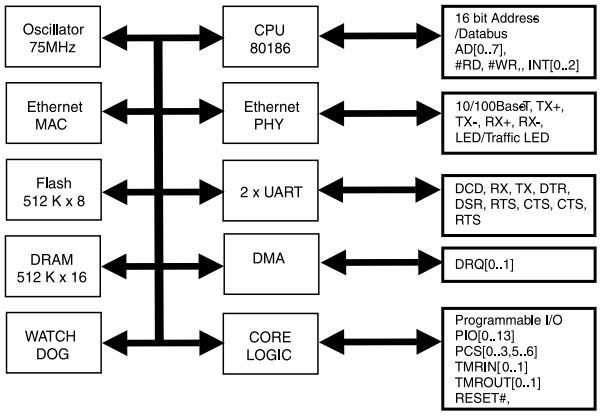
The EVA-SOM1610 is an Ethernet-enabled system on module. The EVA-SOM1610 design is based on a 16-bit, high-performance RISC microprocessor with 80C186 compatibility. The SOM module provides integrated 512 KB Flash and 512 KB SDRAM (up to 1 M), non-multiplexed address bus, interrupt controller, DMA controllers, timers, watchdog timer, FIFO UART serial ports, programmable I/O (PIO) pins and 10/100 MHz fast Ethernet.

The advanced internal high-speed local bus architecture significantly increases the overall system performance. High performance and integration enable the EVA-SOM1610 to significantly reduce the BOM cost of systems, while increasing functionality and performance. EVA-SOM1610 has been designed to meet the requirements of most Ethernet/Internet enabled devices, such as meters, vending machines, Ethernet-enabled controllers, Ethernet-enabled data acquisition, and so on.

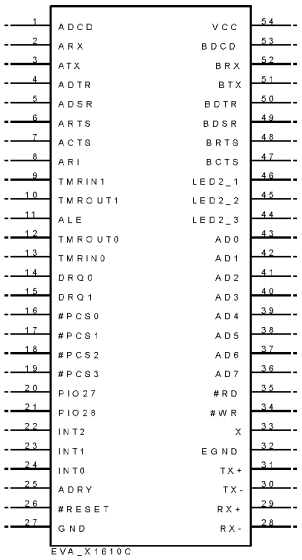
EVA-SOM1610 Integrates CPU Functions and Networking All in One Module:

- 80C186 compatible, 16-bit embedded microcontroller
- 75 MHz operating frequency (up to 100 MHz)
- 512 KB Flash and 512 KB SDRAM (up to 1 M)
- Multiplexed address bus (8-bit)
- Five interrupt inputs
- Two timers
- Two DMA controllers
- Watchdog timer
- 10/100Base-T fast Ethernet interface
- Two asynchronous serial interfaces
- Up to 16 programmable I/O pins
- Pure 3.3 V power supply
- Dimensions: 55 x 26 mm

Function Block Diagram



Pin Placement

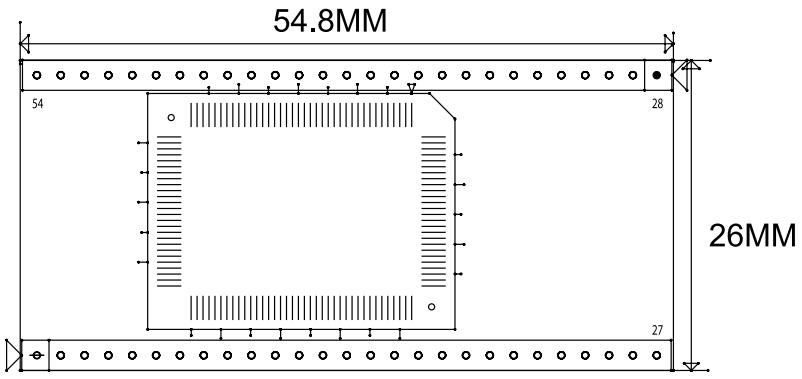


System on Chip

Note: All specifications are subject to change without notice.

Dimension Diagram

Unit: mm



Software Overview

MicroC/OS-II RTOS

- 56 Tasks

TCP/IP Stack

- TCP
- UDP
- IP
- ARP
- ICMP
- SMTP Client
- HTTP Web Server
- Socket interface
- Ethernet Driver
- PPP server
- PPP client

RTOS and TCP/IP Application Samples

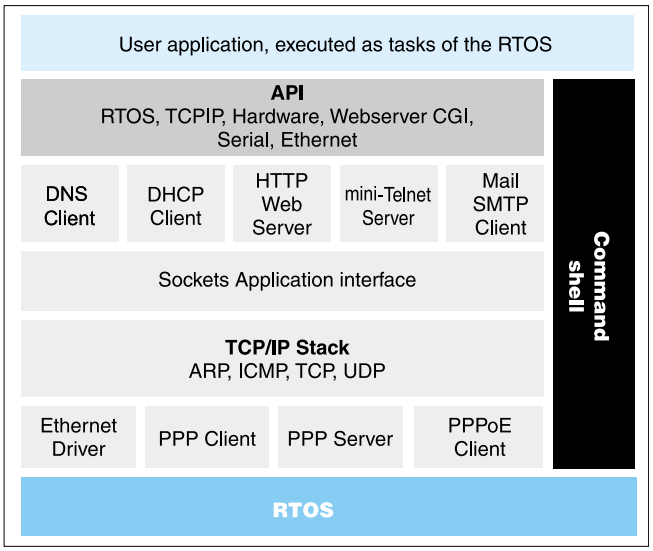
- HTTP Web server
- mini-Telnet server
- DHCP client
- UDP application
- RTOS API samples
- TCP/IP API samples
  - HTTP server
  - Other TCP/IP samples
- Webserver CGI samples
- Hardware API samples
- API samples written in Paradigm C++
- API C-Libraries
- more

Embedded shell

- Supports a subset of embedded commands and EVA chip specific commands via Ethernet or serial devices

Application Programmer Interface

- RTOS
- TCP/IP socket interface
- Webserver CGI
- Hardware



- Serial devices
- Special EVA-X610C services

Ordering Information

❑ **EVA-SOM1610-01**
186-based Ethernet-enabled System On Module