eZ801905050MOD

eZ80190 Module Product Brief

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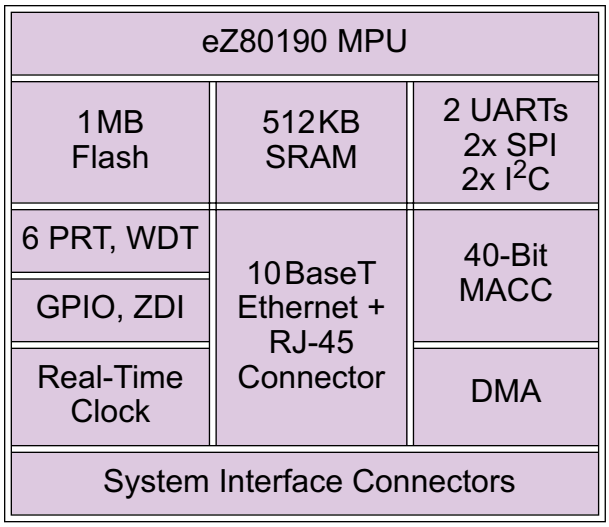
Module Block Diagram



General Description

The eZ80190 Module is a compact, high-performance Ethernet module specially designed for rapid development and deployment of embedded systems requiring control and Internet/Intranet connectivity.

This low-cost, expandable module is powered by ZiLOG's latest power-efficient, optimized pipeline architecture eZ80190 microprocessor with fast 40-bit Multiply-Accumulate (MACC) unit and rich-on chip peripherals.

Combined with a 10Mbps 802.3 Ethernet controller, memories, and a MACC unit, this module is ideal for signal processing, digital filter, data compression, industrial control, communication, security, automation, and embedded networking applications.

For rapid development, this module can interface to the eZ80® Development Platform, which provides a complete user debug environment with power, breadboard area, and serial connectors such as RS-232 and ZDI. For deployment, this compact module interfaces to a user system via its system interface connectors. An RJ-45 Ethernet connector is provided on the module.

System designers with aggressive time-to-market requirements can take comfort in the fact that this tested module, together with available ZiLOG TCP/IP Internet connectivity software and OS, will facilitate quick product launch and low ownership cost.

Features

eZ80190 Module

- 50MHz eZ80190 microprocessor
- 1MB, 100ns Flash memory; hardware Write Protect pin available to user
- 512KB, 10ns high-speed SRAM
- 10BaseT 802.3 Ethernet controller with integrated PHY and 4KB SRAM for Tx/Rx FIFOs
- Two 60-pin system expansion interfaces with full MPU bus/control signals as well as power, peripherals, and user I/Os
- One RJ-45 Ethernet connector
- Two LEDs indicating network link status
- ZiLOG's Internet connectivity software supports over-the-network firmware updates or network configuration
- Module size (including connectors):
  3.0"L x 2.5"W x 0.6"H
  (76.2mm x 63.5mm x 15.2mm)
- Standard operating temperature: 0ºC to +70ºC
- Real-time clock with 32.768kHz crystal and backup capacitor
- Power supply: 3.3V @ 125mA

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eZ80190 Microprocessor

- 2 UARTs, 2x SPI, and 2x I^2C, each with independent baud rate generators
- Glueless external memory interface with 4 Chip Selects, independent wait state generators
- Single-cycle dual-bank 16-bit Multiply, 40-bit Accumulate unit
- DMA controller for memory-to-memory transfers
- Interrupt controller supports internal and external maskable interrupts as well as a nonmaskable interrupt input
- Six 16-bit Counter/Timers with prescalers
- Watch-Dog Timer
- 32 General-Purpose I/O pins
- 2-wire ZiLOG Debug Interface (ZDI)
- 100-pin LQFP package
- 3.0–3.6V supply voltage with 5V tolerant inputs

TCP/IP Software

ZiLOG's royalty-free TCP/IP Internet software suite is an integrated, preemptive multitasking OS and TCP/IP protocol stack that meets all of the relevant RFCs. It is optimized for embedded systems and is implemented as an extension to the ZiLOG C-Compiler's runtime library. Supported protocols and network features are:

- TCP, UDP, IP, ARP, RARP, ICMP, IGMP, PPP
- SMTP, HTTP, TELNET, DNS
- TFTP, SNMP, DHCP/BOOTP, TIMEP
- In-system configuration or updates of network parameters, web pages, and module firmware

A set of well-documented OS and network service APIs allow system developers to quickly take advantage of the ZiLOG TCP/IP software suite while remaining focused on the main application. Final binary output from the compiler/linker is the complete user application with networking capabilities across the Internet or any Intranet.

eZ80190 Development Kit

The eZ80190 Module is available as a stand-alone device and in volume quantities for customer production runs. To help expedite customer evaluation and product development, the low-cost eZ80190 Development Kit includes the following:

- eZ80190 Module
- eZ80® Development Platform with breadboard area and system expansion interfaces
- Low-cost ZPAKII debug interface tool
- Two power supply adapters
- Serial RS232 and JTAG/ZDI cables
- One CAT5 cross-over Ethernet cable
- CDROM:
  - C-Compiler and ZiLOG Developer StudioII (ZDSII) IDE including assembler, linker, debugger, and simulator
- User manuals for:
  - eZ80190 Module
  - eZ80® Development Platform
  - eZ80 ZPAKII debugger/emulator
  - TCP/IP Internet software suite
  - C-Compiler, ZDSII

The Metro IPWorks™ TCP/IP software stack is available via download from zilog.com.

Related Products

Other eZ80® Development Modules include:

eZ80L92 Module	50MHz eZ80L92 MPU, 1MB Flash, 512KB SRAM, IrDA, 2 UARTs, 6 PRT, WDT, GPIO, ZDI, Real-Time Clock, 10BaseT, DMA

Ordering Information

PSI	Part	Description
eZ801905050MOD	eZ80190 Module	50MHz eZ80190 MPU, 512KB SRAM
eZ801900200ZCO	eZ80190 Development Kit	Complete eZ80® Development Kit

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