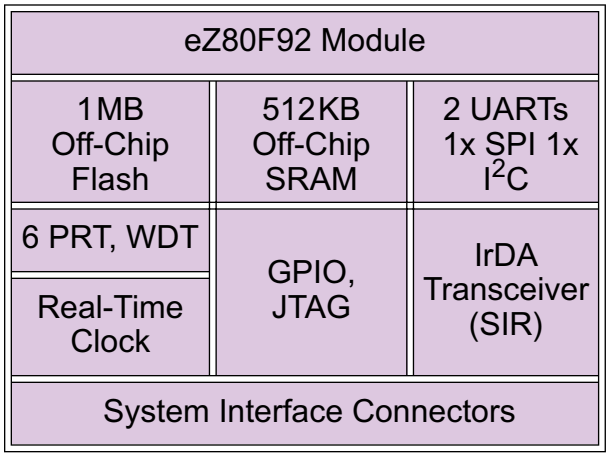
eZ80F920120MOD

eZ80F92 Ethernet Module Product Brief

PB010402-0103

Module Block Diagram



General Description

The eZ80F92 Ethernet 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 eZ80F92 microcontroller[1]. This device is part of ZiLOG's new eZ80Acclaim! product line, which offers MCUs featuring integrated IrDA capabilities and rich on-chip peripherals.

Combined with a 10Mbps 802.3 Ethernet controller, memories, and ZiLOG's industry-leading IrDA transceiver, this module is ideal for wireless IrDA connectivity, 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 JTAG. 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.

1. ZiLOG also offers an eZ80® Development Module based on the eZ80F93 MCU, which is intrinsically the same device, yet offering a smaller memory size.

Features

eZ80F92 Ethernet Module

- 50MHz eZ80F92 microcontroller
- 1MB, 70ns Flash memory, hardware Write-Protect pin available to user
- 512KB, 35ns high-speed SRAM
- 10BaseT 802.3 Ethernet controller with integrated PHY and 8KB SRAM for Tx/Rx FIFOs
- IrDA SIR transceiver (115Kbps) with power-down control
- 2x 50-pin system expansion interface with full MPU bus/control signals as well as power, peripherals, and user I/Os
- One RJ-45 Ethernet connector
- One LED indicating network link status
- ZiLOG's Internet connectivity software supports over-the-network firmware updates or network configuration
- Module size (including connectors): 2.5"L x 2.5"W x 0.6"H (63.5mm x 63.5mm x 15.2mm)
- Standard operating temperature: 0ºC to +70ºC
- Power supply: 3.3V @ 125mA

eZ80F92/eZ80F93 Microcontrollers

- eZ80F92: 128KB Flash, 8KB SRAM
- eZ80F93: 64KB Flash, 4KB SRAM
- Power management features including SLEEP/HALT modes and peripheral power-down controls
- 2 UARTs supporting the 9-bit dot-format, 1x SPI, and 1x I^2C, each with independent baud rate generators
- IrDA compatible Infrared Encoder/Decoder
- New DMA-like eZ80® instructions
- Glueless external memory interface with 4 Chip Selects, independent WAIT state generators, and external $\overline{WAIT}$ input pin; supports Z80™, Intel™, and Motorola™ bus-compatible peripherals.
- Interrupt controller supports internal and external maskable interrupts as well as a nonmaskable interrupt input
- Real-time clock with on-chip 32KHz oscillator, selectable 50/60 Hz input, and separate V_{DD} pin for battery backup
- Six 16-bit Counter/Timers with prescalers and direct input/output drive capability
- Watch-Dog Timer
- 24 General-Purpose I/O pins
- Power-On Reset and Voltage Brown-Out
- JTAG Debug Interface, also supports 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
- FTP, 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.

eZ80F92 Development Kit

The eZ80F92 Ethernet Module is available as a stand-alone development tool module. To help expedite customer evaluation and product development, the low-cost eZ80F92 Development Kit includes the following:

- eZ80F92 Ethernet Module
- eZ80® Development Platform with breadboard area and system expansion headers
- Low-cost ZPAK JTAG/ZDI debugger/emulator
- Two power supply adapters
- Serial RS232 and JTAG/ZDI cables
- One CAT5 cross-over Ethernet cable
- CDROM:
  - C-Compiler and ZiLOG Developer Studio (ZDS) IDE including assembler, linker, debugger, and simulator
- eZ80Acclaim! Software and Documentation on CD-ROM

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

Related Products

Other eZ80Acclaim! Development Modules include:

eZ80F91 Module	50MHz eZ80F91 MCU, 1MB Flash, 512KB SRAM,2 UARTs, SPI, I^2C, 6 PRT, WDT, GPIO, JTAG, Real-Time Clock, 10BaseT, IrDA

Ordering Information

PSI	Part	Description
eZ80F920120MOD	eZ80F92 Ethernet Module	20MHz, 512KB SRAM
eZ80F920120ZCO	eZ80F92 Development Kit	Complete eZ80Acclaim! Development Kit

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