

3-IN-1 100BASE-TX/FX & 10BASE-T ETHERNET CONTROLLER

GENERAL DESCRIPTION

W89C841F/D is a high performance 3-in-1 Fast Ethernet Controller which integrates Fast Ethernet MAC Controller, PHY and transceiver for 100BaseTX/FX and 10BaseT. W89C841F/D provides a fast, high quality and cost-effective solution for use in Ethernet NIC (Network Interface Card), PCI applications, HomePNA and LOM (Lan on Mother board). It provides host bus interfaces complying with the PCI local bus specification R2.2, Mini PCI Specification R1.0 and CardBus. The Ethernet interface is fully complied with the IEEE802.3u standard. W89C841F/D can be a single MAC controller and connects to a HomePNA transceiver through a MII interface for home networking application. W89C841F/D also can be a single PHY device for Lan on Mother board (LOM) application. W89C841F/D's flexible design lets most of applications become easy and simple.

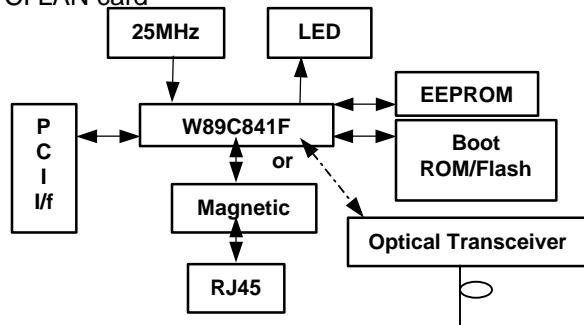
FEATURES

- Integrated Fast Ethernet MAC controller, Physical layer device and transceiver in one chip
- Supports the MII interface for programmable single PHYceiver or single MAC controller
- Supports 100BaseTX/FX and 10BaseT
- Complies with IEEE 802.3, 802.3u specification
- Supports auto cross-over operation
- Supports 10M/100M Ethernet with Auto-negotiation
- Supports Half duplex and Full duplex
- Supports symmetrical and asymmetrical Flow Control (IEEE 802.3x) for Full Duplex
- Complies with IEEE802.3ac, 802.1p for VLAN tagged frame
- Supports LED pins for various network activity indications
- Supports PCI R2.2, MiniPCI R1.0 or CardBus
- Supports 25 to 33 MHz PCI clock speed
- Includes a programmable, PCI burst size and early tx/rx threshold
- Compliant with ACPI R1.0, PCI power management R1.1 and Network device Class Power management Reference specification V1.0a
- Supports power management D3_(cold) state with auxiliary power auto-detect capability
- Supports Wake-On-LAN function and remote wake-up (Magic Packet*, LinkChg and Microsoft® Wake-up frame)
- Supports 4 Wake-On-LAN (WOL) signals (active high, active low, positive pulse, and negative pulse)
- Supports Vital Product Data (VPD) data structure up to 64 Bytes
- Supports 2 sets of independent embedded 2K bytes FIFO for transmit and receive

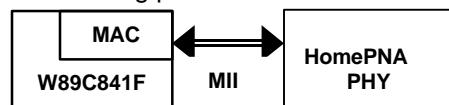
- Supports 8K to 256K bytes Boot ROM interface for both PROM and Flash memory
- Flexible multicast address filtering modes
 - 64-bit hash-table and one perfect address
 - All multicast and promiscuous
- Provides EEPROM (93C46 or 93C56) and Boot ROM/Flash to store configuration parameters, VPD and CIS information
- The CardBus CIS can be stored in 93C56 or expansion ROM
- Supports 25 MHz crystal or 25 MHz OSC as the internal clock source
- 3.3V powered I/Os with 5V tolerant inputs
- 128 pins PQFP package for W89C841F and LQFP package for W89C841D

APPLICATIONS

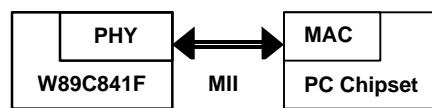
- NIC product: PCI LAN card, Card bus LAN card, MiniPCI LAN card



- Home Networking product: HomePNA



- LAN On Mother board: LOM



- PCI application: Restore card, Firewall, Education system

