

10/100Mbps Ethernet Controller

General Description

TOSHIBA's TC35815CF is a high-speed 10/100BaseX CSMA/CD Local Area Network (LAN) Media Access Controller (MAC) for both the IEEE 802.3u / 802.3x 10Mbps ETHERNET and 100Mbps Fast ETHERNET standards. It provides a highly integrated and cost-effective ETHERNET solution for PC motherboards and Network Interface Cards (NIC), as well as embedded applications such as printers, LAN-ATM bridges, routers and hubs.

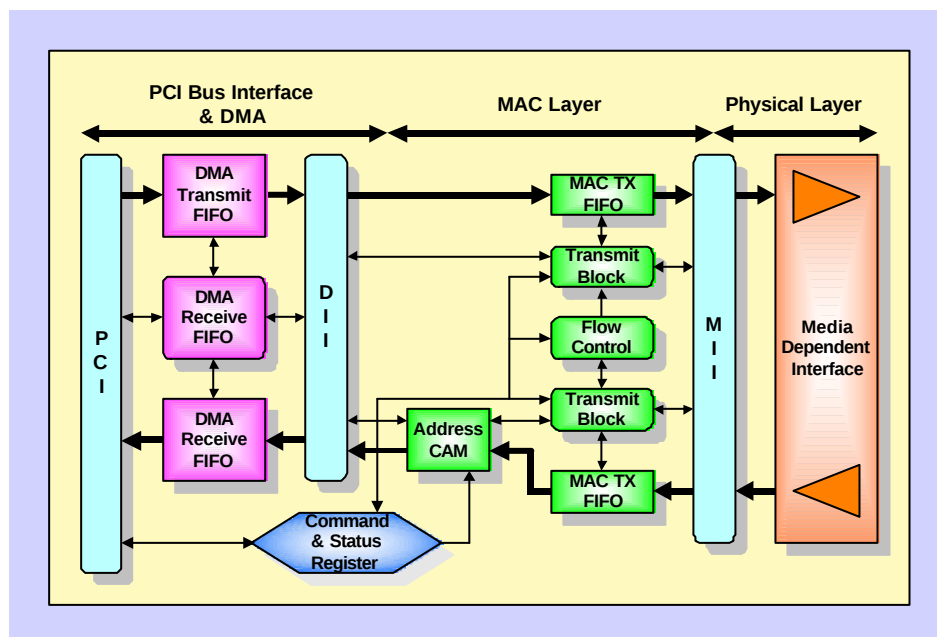
By supporting a direct connection to the 32-bit Peripheral Components Interconnect (PCI) Local Bus, the TC35815CF can be used with a physical layer device to provide a low cost solution. The controller uses burst transfer mode and a receive packing mode to efficiently move data to and from system memory. On-chip memory for buffering eliminates the need for external local buffer memory in NICs.

By keeping the MAC layer and CSMA/CD protocol unchanged, network administrators can quickly adapt newer and faster implementations. This approach also lowers cost of deployment, since it allows re-use of existing applications software. By supporting both 10Mbps and 100Mbps speeds, new products may be deployed into markets, which are in transition.

Features

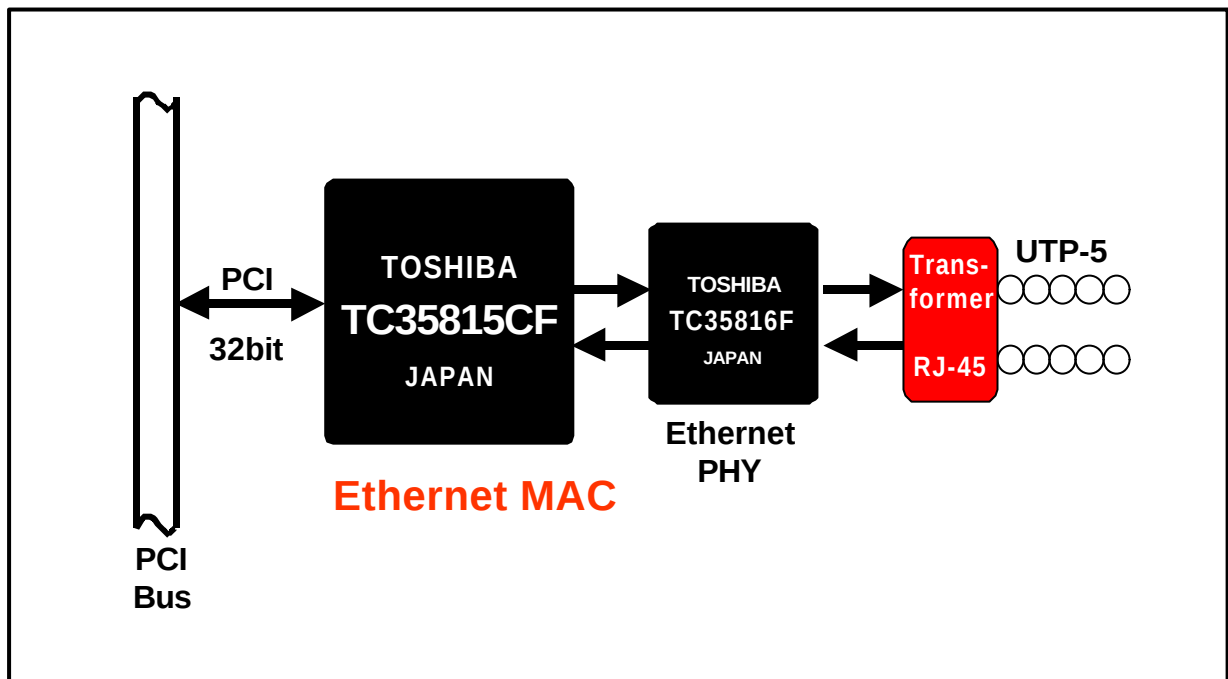
- 10/100Mbps CSMA/CD MAC Controller (IEEE 802.3u)
- Media Independent Interface (MII) for 10/100Mbps
- IEEE 802.3x Flow Control
- 7-Wire Interface for low cost PHY controller 32-bit / 33MHz
- PCI Local Bus Interface requires no glue logic
- On-chip buffers eliminate the need for local memory
- Independent transmit and receive paths provide full-duplex operation
- On-chip processing of software queues reduces processor interrupts
- Buffer chaining supports scatter-gather DMA mode
- Large, on-chip CAM reduces processor and memory load
- External CAM Interface supports large CAM capability for bridges and routers
- 3.3V power supply (5V tolerant inputs)
- Low power 0.3 μ m CMOS process (typically 50mA @ 3.3V / 33MHz)
- 0 +70 temperature range
- 144-pin QFP package

Block Diagram



10/100Mbps Ethernet Controller**Applications**

- PC Motherboards
- Network Interface Cards
- Embedded applications
 - Printers, LAN-ATM bridges, Routers, Hubs

Application Examples**Demo board supporte NOS Software:**

- Netware ODI driver, Ver1.10, for DOS
- NDIS2.01 driver, Ver1.10, for Windows For Workgroups Ver3.11
- Packet driver, Ver1.10, for PC/TCP
- Netware ODI driver, Ver1.10, for OS2
- NDIS2.01 driver, Ver1.10 for OS2
- Netware ODI driver, Ver1.10, for Novell Server
- NDIS3.0 Miniport driver, Ver1.10, for Win95/NT

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