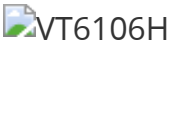
Rhine III VT6106H Fast Ethernet Controller



The VIA Rhine III VT6106H Ethernet controller is a cutting edge, feature-rich, and cost-competitive single ASIC chip solution for PC NIC adapters. The VT6106H alleviates server processor utilization by optimizing throughput between the NIC and PCI bus, allowing data transfers of up to at 200Mbps in full duplex mode, without employing the system CPU. In addition, the VT6106H features extensive troubleshooting features including auto MDI/MDIX configuration and remote BootRom ability. Furthermore, besides implemented in a low power CMOS process, the VIA VT6106H also contains advanced power management features for low power consumption, including Wake on LAN (WOL).

The VIA VT6106H is ideal for integration into network controllers, network workstations, NICs or LAN-on motherboard solutions, providing a manageable, integrated controller to bring high speed Ethernet connectivity to the electronics of tomorrow.

Key Features

- Single chip Fast Ethernet Network Interface Controllers(NICs) for the PCI Bus
  - PCI 2.2 specification compliant
  - Provide a direct connection to the PCI bus
  - Support 10/100 Mbps ethernet communications with Boot ROM interface
- High Performance PCI Mastering Structure
  - VIA-defined 256 byte I/O-based or memory-mapped-I/O-based command and status registers
  - Software oriented chain structure description to minimize hardware complexity
  - On chip bus master DMA with programmable burst length for high PCI bus utilization
  - Transmit data buffer byte-alignment for low CPU utilization
  - Dynamic transmit packet auto-queuing for back-to back transmission
  - Programmable activity polling intervals for description DMA
- Provides Standard 10Base-T/ 100Base-TX/ PHY Layer and Transceiver
  - Supports 10Base-T/ 100Base-TX with CAT5 UTP, STP and fiber cables

  - Auto Power-saving at “cable-not-link”
  - Four LED outputs, including Link, Duplex, Speed and Collision status
- Separate 2K Bytes Receive and Transmit FIFOs
  - Both support bursts of up to full Ethernet length
- Flexible Dynamic-Load EEPROM Algorithm
  - Load after power-up
  - Dynamic auto reload
  - Embedded programming for configuration modification
  - Dynamic direct programming for manufacturing
  - External Boot ROM
  - Up to 64K Bytes
  - No external address latch required
  - Supports EPROM read and Flash ROM read/ write
- ACPI
  - Supports PC99, PC2001 and Net PC requirements
  - Supports PCI Bus Power Management Interface Specification Version 1.0/1.1
  - Supports Advanced Configuration and Power Interface(ACPI) Specification 1.0
  - Supports Network Device Class Power Management Specification Version 1.0a
  - Wake-up even support link change/ magic packet/ unicast physical address/ MS define pattern match
- Flow Control
  - Supports IEEE 802.3X for full duplex
  - Multiple pause frame Xon/Xoff
- 3.3V I/O and 2.5V Core power with PCI bus 5V tolerance, using low power CMOS process,14mmX14mm, 128pin PQFP package
- emBoot PXE Certification

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