

μPD98405 ATM CONTROLLER WITH ABR

The μPD98405 is a highly integrated, single-chip ATM controller that performs all user-to-network interface (UNI) functions from the system bus to the physical media dependent (PMD) interface for cells over SONET applications. The μPD98405 complies with the latest ATM industry standards, supports all classes of service (including ABR), and provides assist functions in hardware for LAN emulation.

FEATURES

- ATM layer and adaptation layer functions with SONET/SDH (STS-3c/STM-1) TC layer and clock recovery circuitry integrated into a single chip
- ABR as well as CBR, VBR, and UBR classes of service in compliance with the latest ATM industry standards
- UTOPIA interface for connectivity to a variety of PHY layer devices (25-Mb/s, DS3, E3)
- 64K VCs/VPs with up to 30K connections active simultaneously (30K packets processed simultaneously)
- LAN emulation assist functions in hardware that relieve the host processor from many tasks and lead to higher system performance
- Single-cell and multicell burst transfers over the PCI bus for optimal host bus utilization and improved overall system performance
- 96-cell receive FIFO to prevent cell loss in high-latency system bus environments
- Extremely flexible buffer management scheme for efficient host memory utilization
- On-chip multiple transmit buffer queues for per-VC queueing applications

HOST INTERFACE

- 32-/64-bit PCI bus interface with 3.3- or 5-volt power supply and clock speeds to 33 MHz
- Optional 32-bit generic bus interface with 3.3-volt power source, clock speeds to 33 MHz, and 5-volt tolerant input signals

ATM LAYER INTERFACE

- Optional UTOPIA interface for connectivity to external PHY circuitry

GENERAL

- MIB counters to aid in network management
- Three loopback modes to isolate problems
- JTAG boundary scan option for automatic testing
- Low-power, 0.35-μm CMOS technology, 3.3-volt supply, and 5-volt tolerant inputs
- 304-pin plastic QFP package

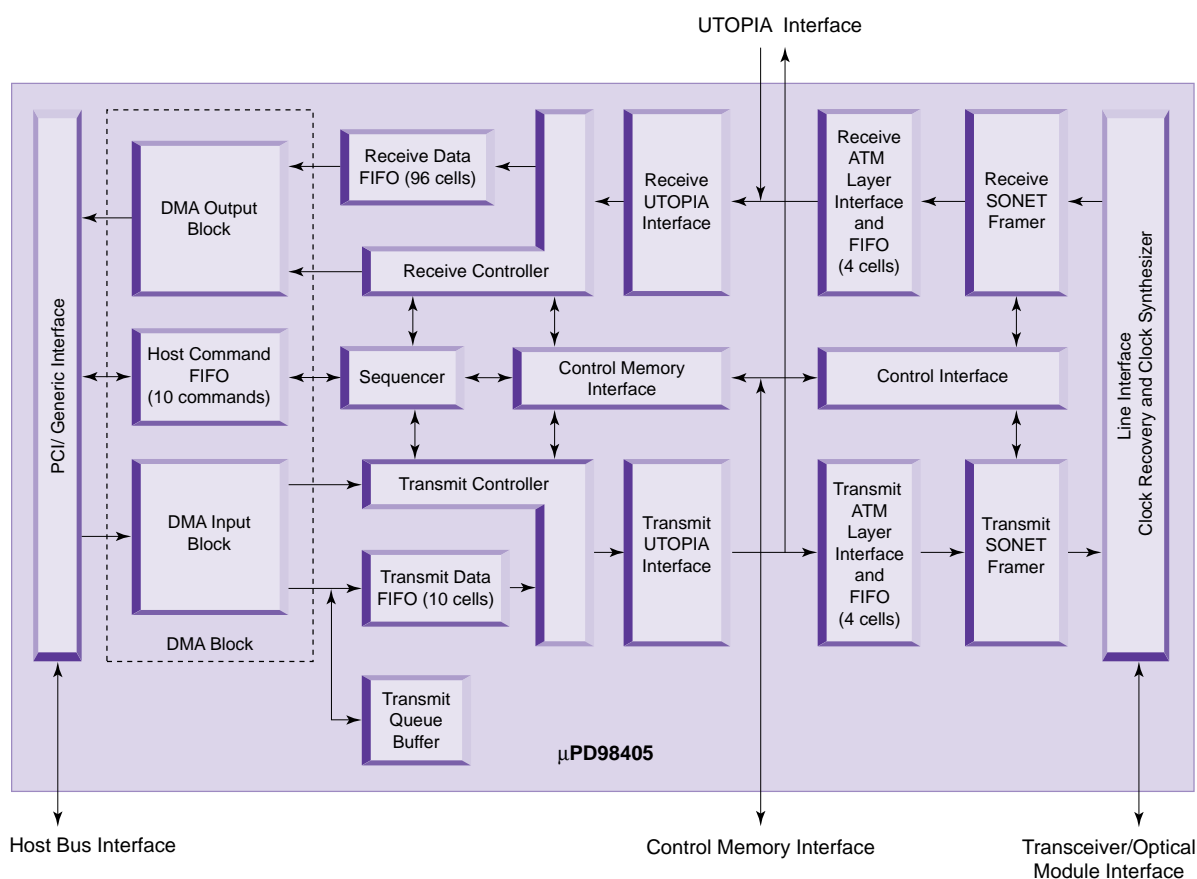
MEDIA INTERFACE

- Differential PECL signals for direct interface to an optical or electrical transceiver

APPLICATIONS

- ATM adapter cards for servers and workstations
- ATM uplink modules for routes and LAN switches
- ATM switches/hubs
- Concentrators and remote access devices

BLOCK DIAGRAM



97NI-0055C (2/97)

NEC

For literature, call 1-800-366-9782 7 a.m. to 6 p.m. Pacific time
or fax your request to 1-800-729-9288
or visit our Web site at www.necel.com

© 1998 NEC Electronics Inc. NEC is either trademarks or registered trademarks of NEC Corporation in the United States and/or other countries. All other trademarks are the property of their respective owners. No part of this document may be copied or reproduced in any form or by any means without the prior written consent of NEC Electronics Inc. (NECEL). The information in this document is subject to change without notice. ALL DEVICES SOLD BY NECEL ARE COVERED BY THE PROVISIONS APPEARING IN NECEL TERMS AND CONDITIONS OF SALES ONLY, INCLUDING THE LIMITATION OF LIABILITY, WARRANTY, AND PATENT PROVISIONS. NECEL makes no warranty, express, statutory, implied, or by description, regarding information set forth herein or regarding the freedom of the described devices from patent infringement. NECEL assumes no responsibility for any errors that may appear in this document. NECEL makes no commitments to update or to keep current information contained in this document. The devices listed in this document are not suitable for use in applications such as, but not limited to, aircraft control systems, aerospace equipment, submarine cables, nuclear reactor control systems, and life-support systems. "Standard" quality grade devices are recommended for computers, office equipment, communication equipment, test and measurement equipment, machine tools, industrial robots, audio and visual equipment, and other consumer products. For automotive and transportation equipment, traffic control systems, and anti-disaster and anti-crime systems, it is recommended that the customer contact the responsible NECEL salesperson to determine the reliability requirements for any such application and any cost adder. NECEL does not recommend or approve use of any of its products in life-support devices or systems or in any application where failure could result in injury or death. If customers wish to use NECEL devices in applications not intended by NECEL, customers must contact the responsible NECEL salespeople to determine NECEL's willingness to support a given application.

Document # S12435EU2V0PB00