GENERAL DESCRIPTION

The PAS6201 is a Gigabit Ethernet Optical Network Unit (ONU) system on a chip dedicated for use in an Ethernet Passive Optical Network (IEEE 802.3ah EPON). The PAS6201 chip integrates the Ethernet Media Access Control (MAC) functionality, EPON protocol management, an advanced classification engine and an embedded CPU. An integrated software package provides a complete ONU solution.

PRODUCT BENEFITS

- Full IEEE 802.3ah EPON ONU functionality with integrated ARM9 CPU and comprehensive software package.
- Advanced classification engine with support for VLANs, video services with IP Multicast, IPv4 or IPv6
- Open software development platform with support for Linux, VxWorks and a low footprint RTOS
- Comprehensive ONU software development package with complete set of device drivers
- ONU management software packages including OAM, SNMP, Web-based management

FEATURES

- Gigabit Ethernet PON ONU based on 802.3ah standard
- Integrated SERDES and CDR for loop timing support
- FEC support for improved optical budget and split ratio
- Programmable interface logic for optical transceiver
- Integrated ARM9 CPU (including MMU)
- Complete ONU software package development platform supports automatic operation and OEM vendor extensions
- Support for buffer threshold reporting for compatibility with dynamic threshold control

BLOCK DIAGRAM
PAS6201 Gigabit Ethernet Optical Network Unit SOC

- 8 priority queues with multiprotocol classifier including:
  - VLAN manipulation and QoS support
  - 802.1p priority, IPv6, IPv4
  - IGMP
- Full OAM feature set termination according to 802.3ah
- 128 bit AES encryption – downstream and upstream
- 802.1x Authentication engine with remote administration
- 802.3x flow control for UNI
- 802.1D Bridging: Includes 128 port local address table with aging for isolation of home traffic from network
- Optional external CPU management via UART or Ethernet
- Flow control in uplink queues according to programmable fields including ToS, CoS, VLAN, Ethertype IP address, TCP/UDP port
- Comprehensive software management package including SNMP, Web-based management, Remote software download, routing
- Full VoIP stack executed on the embedded ARM9 with no need for an external CPU

ONU EXAMPLE USING PAS6201

FURTHER RESOURCES

www.pmc-sierra.com/passave/
www.pmc-sierra.com/ftth-pon/