

## GPON OLT OS70501

### OVERVIEW

OptixSemi's OS70501 is a monolithic, high-performance OLT System-on-Chip engineered for broadband fiber access. It delivers a versatile, feature-rich, and economical foundation for FTTH/POL deployments. By integrating GPON OLT MAC, a sophisticated Frame Switch Matrix, and comprehensive high-speed interfaces, the OS70501 simplifies design, reduces power, and accelerates time-to-market for scalable OLT equipment.

### BENEFITS

- **High Integration:** Consolidates GPON MACs, burst-mode SerDes, a Frame Switch Matrix (FSM), Ethernet NNI, and system peripherals into a single chip, minimizing external component count.
- **Carrier-Grade Switching:** The integrated FSM provides advanced L2/L3/L4 packet processing, QoS, traffic management, and seamless bridging between PON and uplink domains.
- **Inherent Scalability:** A dedicated cascade interface enables multi-chip interconnection for building 4, 8, or 16-port GPON OLT line cards from a single port building block.

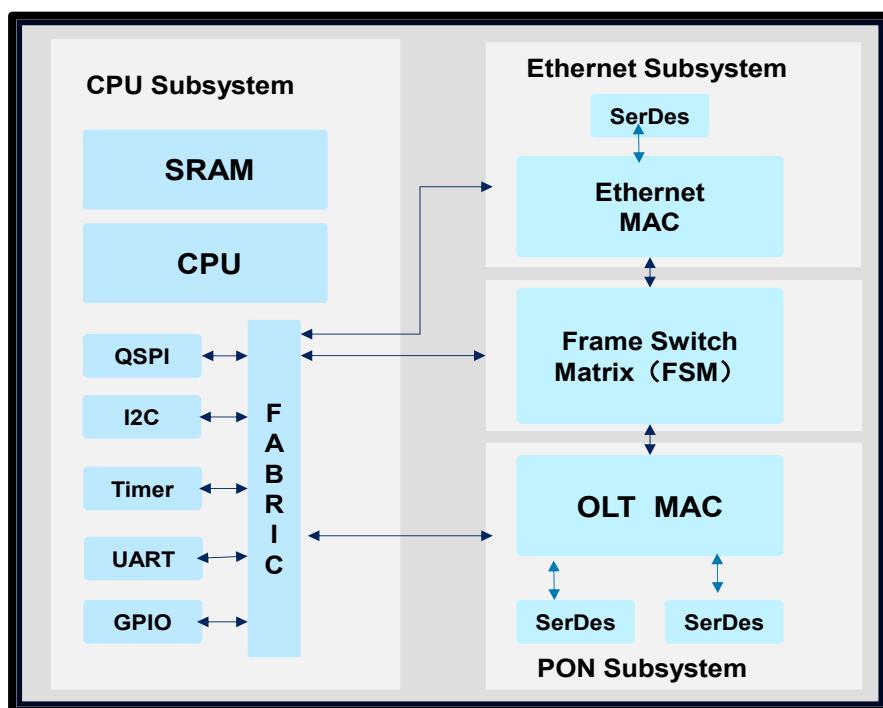
### TECHNICAL SPECIFICATIONS

- **PON Interfaces:** 1-port GPON (2.5G/1.25G) OLT MAC.
- **Integrated burst-mode PON SerDes** for direct connection to optical transceivers.
- **Support for flexible upstream Dynamic Bandwidth Allocation (DBA).**
- **Full-featured Layer 2/3/4 packet forwarding engine.**
- **Deep packet parsing, classification, and ACL capabilities.**
- **VLAN support (802.1Q), traffic policing, shaping, and hierarchical scheduling.**
- **Seamless interconnect between PON client ports and network uplink interfaces.**
- **High-Speed Network Interfaces**
  - **2.5G Uplink (NNI):** Supports XFI, KR, and USXGMII interfaces.
  - **Supports HSGMII (2.5G) and SGMII (1G).**
  - **Support PCIe3.0 (Root Complex or Endpoint) or 2x GbE SFI/SGMII.**
- **Peripherals**
  - **Low-Speed Interfaces:** UART, I2C, I2S, GPIO, QSPI Flash interface.
  - **Package:** FCCSP, 14x14mm, 441 balls, 0.65ball pitch.

## TARGET APPLICATIONS

- POL – 1,2,4,8-port OLT Pizza box. For Campus/Hospital/Local Area Network
- FTTH – Central Office / OLT Chassis Line Cards  
Utilizes the chip's cascade capability to construct high-density 8, or 16-port OLT blades for chassis-based systems, serving large numbers of residential and business subscribers.

## BLOCK DIAGRAM



## ORDER INFORMATION

SKU	Description	Working Temperature	Package Info
<b>OS70501-BO</b>	1-port GPON OLT SoC	-40°C – 85°C	14mmx14mm, 441 balls, 0.65 ball pitch

For detailed datasheets, application notes, reference design schematics, and evaluation kit information, please contact your OptixSemi sales representative or authorized distributor.