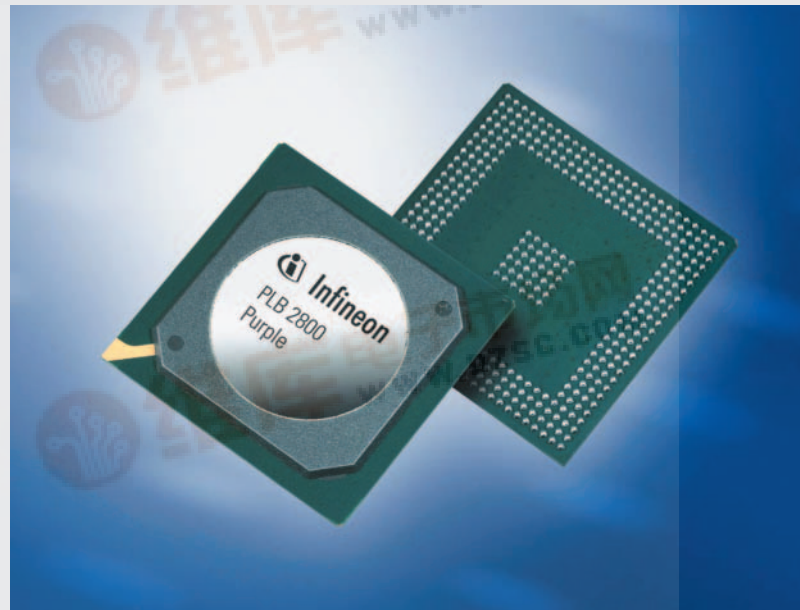


Infineon's Purple (PLB 2800) is a highly integrated and configurable Layer 2+ SoC (Switch-on-a-Chip). It extends Infineon's Layer 2 Ethernet switch family of products for higher integration, and more advanced traffic management. The Purple's versatile configuration and stacking options permit a variety of system topologies designed to increase the deployment of Ethernet access applications.

The Purple features a large on-chip packet buffer and address tables. With the addition of an on-chip 64-bit MIPS CPU, the need for an external memory and controller is eliminated.

Advanced security and Quality of Service (QoS) features are guaranteed using extensive VLAN management capabilities and port-based security for guarded and secure handling of traffic flows.

The Purple supports seven different configurations, ranging from eight GbE ports up to 48FE + 2GbE.



Applications

- Ethernet access switch for IP-DSLAM/DLC/MDU/MTU
- High port count workgroup switch
- GbE aggregator Ethernet Switch
- Cellular base stations
- Packet over SONET/SDH systems

Features

- 21 Gbit/s 12 million packets/second switching engine for solid L2+ wirespeed switching performance
- Embedded 64-bit MIPS 5Kc CPU
- On-chip DRAM, SRAM
- Stackable with up to 16 Purple switches with complete stack management
- Four Class of Service (CoS) queues per port

- Strict priority and Weighted-Fair-Queuing (WFQ) packet scheduling
- Advanced buffer control
- Broadcast and multicast storm control
- Multicast support for up to 256 multicast groups
- Port based flow control
- Per-flow token bucket policing
- Per-queue rate shaping
- Port, tag and flow-based VLANs
- Stacked VLAN support
- Port-based security
- Intrusion detection
- eCPU switch management with Bus mastering capabilities, flow-based accounting and RMON support
- Hardware assistance for protocols such as STP, GVRP and IGMP and Snooping

Interfaces

- SMII V1.2/V2.1 for FE ports
- (R)GMII/TBI/MII for GE ports
- 32-Bit, 66 MHz PCI or generic host bus with DMA support
- I²C Interface for configuration EEPROM, optional low-cost CPU
- PC-133 SDRAM interface for external CPU DRAM
- EJTAG Interface for testing
- General purpose timer and I/Os

Standards Supported

- Supports a wide variety of IEEE 802.xx protocols
- IETF RFCs 1155–1157 SNMP
- IETF RFCs 1213, 1643, 1493
- IETF RFC 1757 RMON

Physical Characteristics

- P-BGA-388-2 package
- Core logic operates at 1.8 V

Purple

48FE+2GbE/8GbE L2+

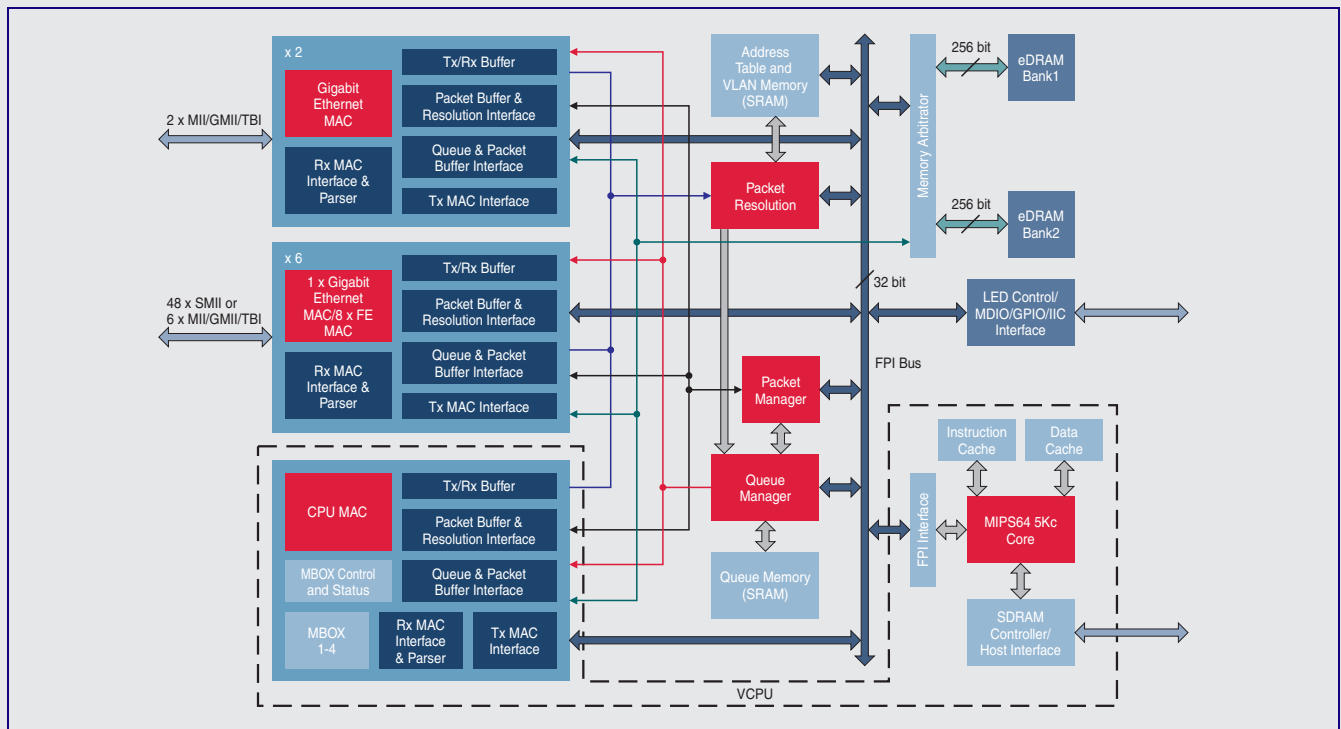
Configurable Ethernet

Switch-on-a-Chip

PLB 2800



PLB 2800 Block Diagram



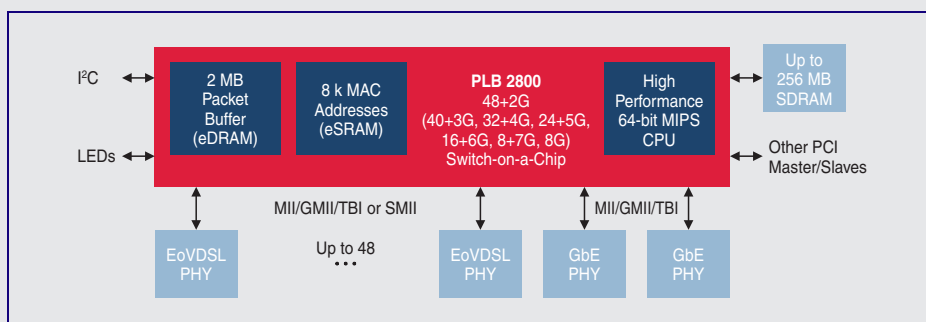
Ordering Information

PLB 2800 IC

Product	Sales Code	Description	Package
Purple	PLB 2800	48FE+2GbE/8GbE L2+ Configurable SoC	P-BGA-388

Purple Design Tools

Product	Sales Code	Description	Package
Purple2800x	Purple 2800 8GbEC	LAN Switch Demo Board	Main board with 8GbE copper modules
Purple2800x	Purple 2800 48+2GEF	LAN Switch Demo Board	Main board with 48FE+ 2GbE fiber modules
Purple2800x	Purple 2800 48+2GbEC	LAN Switch Demo Board	Main board with 48FE+ 2GbE copper modules
VDSL2800	SP-VDSL2800	Ethernet Access Switch Demo Board	Main board with 24 EoVDSL ports +2GbE uplinks



Small Form Factor 48 + 2G Layer 2 Ethernet over VDSL Switch Application Example

How to reach us:

<http://www.infineon.com>

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St.-Martin-Strasse 53,
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