MAXLINEAR

The 7-port Gigabit Ethernet Switch Device with 1588v2 for Switches and Gateways

PRODUCTS

GSW150 — 7-port Gigabit Ethernet QoS switch with five Ethernet PHY and two RGMII or one GMII port(s)
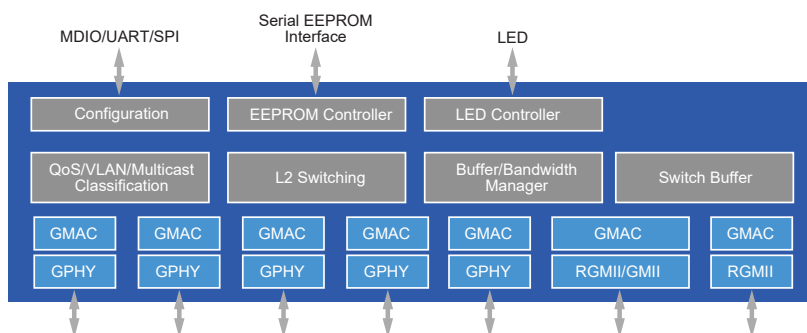
FEATURES

- Five integrated PHY
  - □ 10BASE-TE, 100BASE-TX, and 1000BASE-T
  - □ 802.3az Energy-Efficient Ethernet
- Two RGMII or one single GMII interface(s) with delay compensation
- QoS support with up to 16 traffic classes based on port, 802.1P, IP DSCP/ToS, and multiple fields
- 4K 802.1Q VLAN and VLAN Q-in-Q insertion, removal, and translation
- Hardware IGMP V1/2 and MLD V1 snooping
- Broadcast storm control and ingress bandwidth control
- Egress rate shaping and WFQ-strict priority combined scheduling
- Switch buffer reservation for congestion management
- Cable diagnostics, cable open/short detection and cable length estimation
- Test loops and analog self-test
- Up to three LEDs per PHY
- 25MHz or 40MHz crystal
- 2K MAC addresses
- 64 ACL rules
- Up to 32 class of service queues
- Up to 16 queues per port
- 32 single rate shapers
- 16 single rate three color meters
- 802.1p and IP DSCP/ToS remarking
- Authentication support according to *IEEE 802.1X* port authentication
- Spanning tree/rapid spanning tree and 16 STP instances per port
- Port mirroring
- Precise time stamping indication according to *IEEE 1588 Version 2*
- 3.3V and 1.1V power supply

The GSW150 device is a highly integrated, non-blocking seven-port Gigabit Ethernet switch with five tri-speed Ethernet PHY and two tri-speed RGMII or one tri-speed GMII interface(s).

The GSW150 device complies with 10BASE-TE, 100BASE-TX, and 1000BASE-T standards. Support of *Energy-Efficient Ethernet 802.3az* reduces power consumption further in idle state. A smart LED brightness control logic is integrated for additional power saving. LED brightness can be adjusted either by an external push button or varies dynamically depending on the intensity of the light with an external light sensor.

GSW150 Block Diagram

GSW150 Gigabit Ethernet Switch

The GSW150 device is configurable through pin-strapping, by means of the MDIO interface, UART interface, SPI interface, or optionally by connecting an external EEPROM. Integrated QoS technology prioritizes switch traffic for different classes of applications, for example, VoIP, video, audio, and data based on port ID, 802.1p, IP DSCP/ToS, and multiple fields of the packet. *IEEE 1588v2* support enables highly accurate precision timing protocol applications.

The 128KB embedded packet storage SRAM is integrated with 9K jumbo frame support.

The GSW150 device features 4K entry VLAN table for 802.1Q VLAN operation and double VLAN tagging (Q-in-Q) translation. The device supports IGMPV1/2 and MLD V1 snooping for efficient use of network bandwidth.

SOLUTION HIGHLIGHTS

- Smart LED brightness control integrated for power saving
- Industry's smallest design using PGMRQFN-134 9x9mm
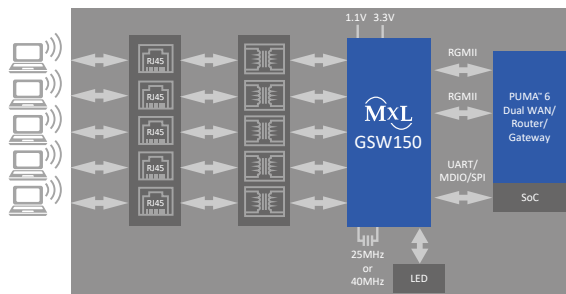- *IEEE 1588 Version 2* support

MAIN APPLICATIONS

- Standalone 5-port Gigabit switches
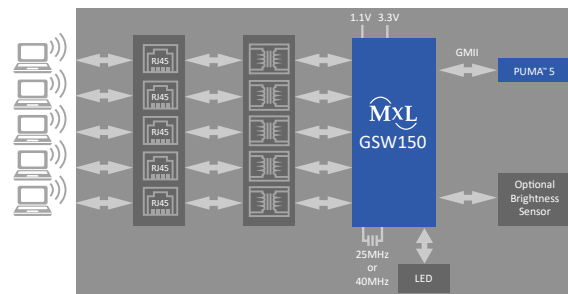- Home gateways

STANDARDS

- IEEE 802.3az: Energy-Efficient Ethernet
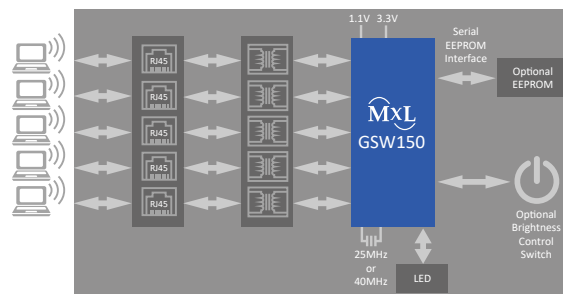- IEEE 1588 Version 2

Application Examples

Cable PUMA™ 6 Dual WAN, Router, and Gateway

Cable PUMA™ 5 Router and Gateway with an Optional Brightness On/Off Switch

Standalone Desktop Switch with an Optional Brightness On/Off Switch

Product Information

Product	Description	Ordering Code	Package
GSW150 Gigabit Ethernet Switch	7-port Gigabit Ethernet QoS switch with five Ethernet PHY and two RGMII or one GMII port(s)	PEB7084MV12	MRQFN-134 (9x9)