Overview

The JL6107SC is a 7-port high-performance Gigabit Ethernet (GE) switch with two RGMII/MII/RMII or 1000BASE-X/100BASE-FX/H-SGMII/SGMII. It features a highly-integrated design and smart management, incorporating 5 GE PHYs and RISC-V technology. Additionally, the JL6107SC combines a non-blocking switch fabric and achieves various functions of a high-speed switch system, including packet buffers, address management, VLAN, ACL, QoS, MIB, and more.

The JL6107SC contains 5 full-duplex 10/100/1000 Mb/s triple-speed Ethernet transceivers in a 128-pin LQFP EPAD package. It has two PHY-less interfaces for the external CPU or external PHY chip, providing flexible 10/100/1000/2500 Mb/s connectivity. The device is compatible with all industry-standard Ethernet, Fast Ethernet, and Gigabit Ethernet systems. Equipped with a powerful RISC-V CPU system, the JL6107SC supports smart management such as function and cloud management. It also allows RTOS to run upper-layer software protocols.

Typical Applications

- 5 to 7 Port Lite-Managed Gigabit Switch or Dump Switch
- 5-Port Router
- Ethernet Bridge Module

Features

- Seven 10/100/1000 Media Access Controllers (MAC)
- 5-port 10/100/1000BASE-T transceivers
- One interface supports H-SGMII/SGMII/2500BASE-X/1000BASE-X/100BASE-FX
- One interface supports RGMII/MII/RMII or H-SGMII/SGMII/2500BASE-X/1000BASE-X/100BASE-FX
- Each port supports full-duplex 10/100/1000M connectivity (whereas half-duplex is only supported in 10/100M mode)
- Full-duplex and half-duplex operation with IEEE802.3x flow control and back-pressure
- Embedded RISC-V up to 156.25 MHz

- Supports L2 switching, 2K L2 MAC table entry, aging time ranging from 2s to 1600s, software accessible
- Supports 64-entry L2 multicast table
- Maximum forwarding 16000B length jumbo frame
- Supports Broadcast/Multicast/Unknown DA storm control
- Supports port mirroring functions
- Supports 128-entry ACL rules
- ACL search key supports physical port, layer 2, layer 3, and layer 4 information
- Supports port-based VLAN and IEEE802.1q-based VLAN with 4096 entries
- Supports Egress VID modification and double-tagging
- Supports Spanning Tree/Rapid Spanning Tree/Multiple Spanning Tree Protocol
- Supports 8 priority queues per port and traffic classification
- Supports Strict Priority and DWRR schedule
- Supports Priority modification and rate limiting on egress
- Supports trunk function
- Supports RFC MIB Counters
- Supports Reserved Multicast Address filtering control
- Supports software based IGMP v1/v2/v3 and MLD v1/v2 snooping
- Supports SPI Flash interface
- Supports SMI/I2C master/slave mode to access EEPROM/register/CPU
- Each port supports 3 parallel LEDs or serial LED
- 25 MHz crystal input
- 128-pin LQFP EPAD package