JL5106 Product Brief

6-Port Fast Ethernet Switch with MII/RMII Interface

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Overview

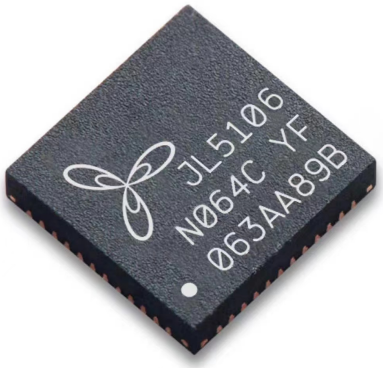
The JL5106 is an 6-port fast ethernet switch with MII/RMII interface. It supports the QoS functions with four-level priority queues that ensure the performance of some real-time network applications.

The JL5106 integrates a 2K-entry address lookup table and a 4-way associative hash algorithm that validates input values, avoids hash collisions, and maintains forwarding performance. The supported maximum length of a data packet is 4097 bytes. With three types of independent storm filters, the JL5106 can filter packet storms. The JL5106 also integrates an intelligent switch engine that solves the Head-of-Line blocking problems.

The JL5106 supports 16 VLAN groups that can be configured as port-based VLANs and/or 802.1Q tag-based VLANs.

Typical Applications

- 6-Port Switch (10BASE-T and 100BASE-TX)
- HomePNA/HomePlug bridge
- Set-Top Box/TV



Features

- Up to 5x10BASE-T/100BASE-TX Ethernet ports + 1 MII/RMII port
- Non-blocking wire-speed reception and transmission and non-HOL forwarding
- L2 switching with 2K entry L2 Mac table, hash-based 4-way, 16 entry hash collision CAM, and 64 entry L2 multicast table
- Jumbo frame support, up to 4097 bytes
- 728K bits packet buffer and supports full mesh test from 64B to 1518B
- MIBs cover TX/RX packet/bytes counter, UC/MC/Flood packet/bytes counter, packet CRC error counter, and drop counter
- Supports high-performance QoS function on each port
- Supports Queue Management Operations
- 16 entry VLAN groups
- Flexible 802.1Q port/tag-based VLAN
- 16 VLANs are selected from a "cam-type-matching"
- Supports hardware loop detection function with LEDs and buzzer to indicate the existence of a loop
- Flexible LED indicators
- Supports Ingress/Egress port mirror
- Multicast/Broadcast storm control with separate token buckets for flooding, broadcast, and multicast packets
- Multicast/Broadcast storm control is either packet or byte-based, configurable per egress port
- 32 entry L2 classification table for advanced application
- Physical layer port Polarity Detection and Correction function
- Single 3.3V power input can be transformed by integrating LDO regulator to generate 0.9V from 3.3V via a low-cost external Diode
- 25 MHz crystal or 3.3V OSC input
- 64-pin QFN package for 6 port FE Switch