

Overview

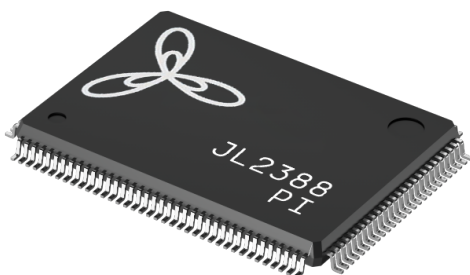
The JL2388 is a high-performance device that integrates octal 10/100/1000M Ethernet PHY transceivers compliant with IEEE 802.3 standards. It supports 1000BASE-T, 100BASE-TX, and 10BASE-T connections and uses advanced mixed-signal processing to perform equalization, echo and crosstalk cancellation, data recovery, and error correction functions.

In addition, the JL2388 device supports 2 Quad Serial Gigabit Media Independent Interfaces (QSGMII) or 1 Octal Universal Serial Gigabit Media Independent Interface (O-USGMII) for direct connection to a MAC/Switch port. It also offers support for Synchronous Ethernet (SyncE) and Precise Timing Protocol (PTP) Time Stamping, which is based on IEEE 1588 version 2 and IEEE 802.1AS.

The JL2388 is also equipped with a Virtual Cable Tester, which can detect short and open circuits, and accurately measure the cable length. This feature allows for efficient cable installation and maintenance, ensuring a reliable and high-quality network connection.

Typical Applications

- High-density Gigabit Ethernet (GbE) switches and routers



Features

- Integrated Octal-port 10/100/1000M Ethernet PHY transceivers
- Each port supports full-duplex 10/100/1000M connectivity and the half-duplex is only supported in 10/100M mode
- Supports O-USGMII and QSGMII
- Supports auto MDI/MDIX crossover function for 10BASE-T/100BASE-TX/1000BASE-T
- Supports auto-detection and auto-correction for pair polarity
- Supports Parallel Detection and Downshift function
- Supports Baseline Wander Correction
- Supports IEEE 802.3az Energy Efficient Ethernet (EEE) and Link Down Power Saving
- Supports IEEE 802.3 Clause 22 and Clause 45 MDC/MDIO management interface
- Supports Parallel mode LED and a 4x4 Matrix mode LED function
- Supports interrupt pin output for notification
- Built-in Wake-on-LAN (WOL) function
- Supports Synchronous Ethernet (SyncE) for 1000BASE-T and 100BASE-TX
- Hardware supports Synchronous Ethernet and Precision Time Protocol (PTP), including IEEE 1588 v1, v2, and 802.1AS
- Supports Various Self-Loopback Diagnostic capability
- Supports Temperature Sensor in PHY
- Supports TDR-based Cable Test Diagnostic
- Supports 25 MHz/125 MHz/156.25 MHz reference clock input
- Clock Cascading
- Supports IEEE 1149.1 (JTAG) and 1149.6 (AC JTAG)
- LQFP-128 E-PAD package