

Overview

The JL2101(D)C is a single-port Gigabit Ethernet PHY transceiver that supports 1000BASE-T, 100BASE-TX, and 10BASE-T in IEEE 802.3 standards. Data transfer between MAC and PHY via RGMII interface.

The JL2101(D)C MDI interface integrates MDI termination resistors into the PHY, which reduces the bill of materials (BOM) and simplifies the layout.

The JL2101(D)C supports a single 3.3V power supply and features configurable I/O voltages of 3.3V, 2.5V, and 1.8V.

Built on advanced mixed-signal technology and process node, the JL2101(D)C offers unparalleled performance in power consumption and cable range with reduced EMI, suitable for a wide range of applications.

Typical Applications

- Enterprise & SOHO
- Wireless router
- Industrial controls and automation
- LED display

Features

- 1000BASE-T/100BASE-TX/10BASE-T IEEE 802.3 Compliant
- Supports RGMII to Copper
- Supports Parallel Detection
- Supports Base Line Wander Correction
- Built-in Wake-on-LAN (WOL) in multiple modes
- Crossover Detection & Auto-Correction
- Supports Interrupt function
- IEEE 802.3az-2010 (EEE) Compliant
- Automatic polarity correction
- Supports over 120m for CAT5e cable in 1000BASE-T
- Supports SNR indicator in 1000BASE-T and 100BASE-TX
- Selectable 3.3/2.5/1.8V signaling for RGMII
- Integrated Switching Regulator (JL2101C) or Linear Regulator (JL2101DC) for REG_OUT
- Supports 3.3V single power supply
- Supports Downshift mode for two-pair cables and terrible cables
- Supports LDLP (Link Down Low Power) mode
- Supports VCT Cable Diagnostics
- Supports Synchronous Ethernet (SyncE)
- Supports multiple loopback modes
- Supports packet generator and multiple debug counter
- Supports 25-MHz external crystal or OSC
- Selectable 25-MHz/125-MHz clock output
- 40-pin QFN package

