



HT8821C/HT8821H

Single-port 2.5G Ethernet physical layer transceiver

1. intro

The HT8821C/HT8821H is a highly integrated 10BASE-T_e, 100BASE-TX, 1000BASE-T, and 2.5GBASE-T transceiver compatible with both the IEEE 802.3 standard and the NBASE-T Alliance PHY. It performs all necessary physical layer functions over CAT5EUTP cables for 10BASE-T_e, 100BASE-T, 1000BASE-T and 2.5GBASE-T Ethernet.

The HT8821C/HT8821H uses advanced DSP technology and an analog front end to achieve high-speed data transmission and reception via UTP cables. It is a highly integrated solution that combines digital adaptive equalizer, analog-to-digital conversion, line drivers, echo eliminators, crosstalk eliminators, phase-locked loops, and more. Also supports cross detection and automatic correction, polarity correction and other functions.

The data transfer between MAC and HT8821 is via the SERDES interface, which can be configured as SGMII and 2500BASE-X.3

The HT8821C/HT8821H operates at a variety of digital I/O voltages, including 3.3V and 1.8V.

Commercial grade model :HT8821C

Industrial model :HT8821H

Apply

- Digital television
- Printers and office machines
- Ethernet switches and routers
- PON equipment



2. Main function

- Compatible with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
- Supports IEEE 802.3az (Energy Efficient Ethernet)
- Supports IEEE 802.3bz(2.5GBASE-T)
- Supports Full Duplex flow control (IEEE 802.3x)
- Supports IEEE 802.3 optional ability (Fast Retrain)
- Integrated 10BASE-T_e, 100BASE-T, 1000BASE-T and 2.5GBASE-T IEEE 802.3 Compliant transceiver
- Auto-Negotiation with extended next page capability(XNP)
- Compatible with NBASE-T Alliance PHY Specification
- Supports pair swap/polarity/skew correction
- Crossover detection and auto-correction
- Configurable MDI port ordering (MDI swap) for easy PCB layout
- Supports power down/link down power saving mode
- Supports clause 22 and clause 45 MDC/MDIO management interface
- Supports rate adaptor for SERDES
- Selectable SERDES interface to MAC control(SGMII/2500BASE-X)
- Built-in Wake-on-LAN(WOL) over UTP
- Supports Interrupt function over UTP
- Supports parallel detection
- Baseline Wander Correction
- Supports 3.3/1.8V signaling for MDIO access
- Supports 25MHz crystal or external OSC
- Provides 25MHz clock source for MAC



- Provides 3 network customized LEDs with controllable LED Blinking Frequency and Duty Cycle
- Self-Loopback diagnostic capability
- Supports SPI Flash

3.pin

