

YT8531SC/YT8531SH

单口千兆以太网物理层收发器

产品简介

YT8531SC/YT8531SH 是一款高度集成以太网收发器, 符合 10BASE-Te、100BASE-TX 和 1000BASE-T IEEE 802.3 标准。它提供了通过 CAT5E UTP 电缆传输和接收以太网数据包所需的物理层功能。

YT8531SC/YT8531SH 采用先进的 DSP 技术和模拟前端 (AFE), 可通过 UTP 电缆实现高速数据传输和接收。

YT8531SC/YT8531SH 实现了交叉检测和自动校正、极性校正、自适应均衡、串扰消除、回声消除、定时恢复和纠错等功能, 以提供强大的 10Mbps、100Mbps 或 1000Mbps 传输和接收能力。MAC 和 PHY 之间的数据传输是通过 1000BASE-T、100BASE-TX 和 10BASE-Te 的精简千兆位媒体独立接口 (RGMII)。

YT8531SC/YT8531SH 支持各种 RGMII 信号电压, 包括 3.3V、2.5V 和 1.8V。

YT8531SC/YT8531SH 还支持可配置为 SGMII、1000BASE-X 或 100BASE-FX 的 SerDes 接口。

商业级型号:YT8531SC

工业级型号:YT8531SH

主要功能

- 数字电视
- 打印机和办公机器
- 以太网交换机
- 基站和控制器
- 路由器
- PON 设备
- 测试和测量系统
- 工业和工厂自动化设备
- 多媒体同步与实时网络
- 带有以太网 MAC 且需要 UTP 物理连接

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芯片框图

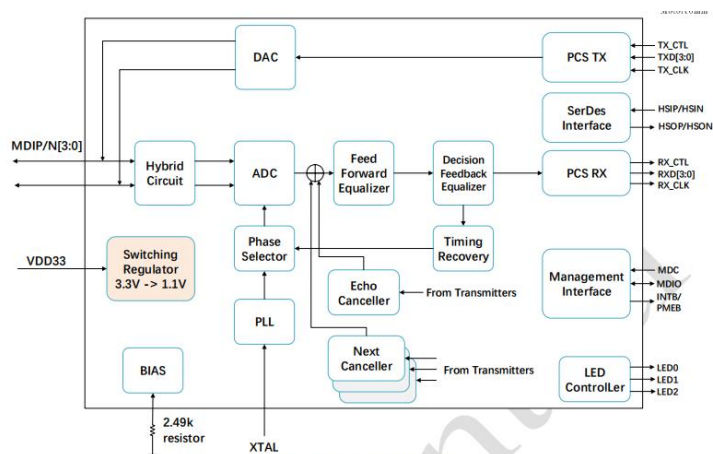


Figure 1. Block Diagram

主要功能

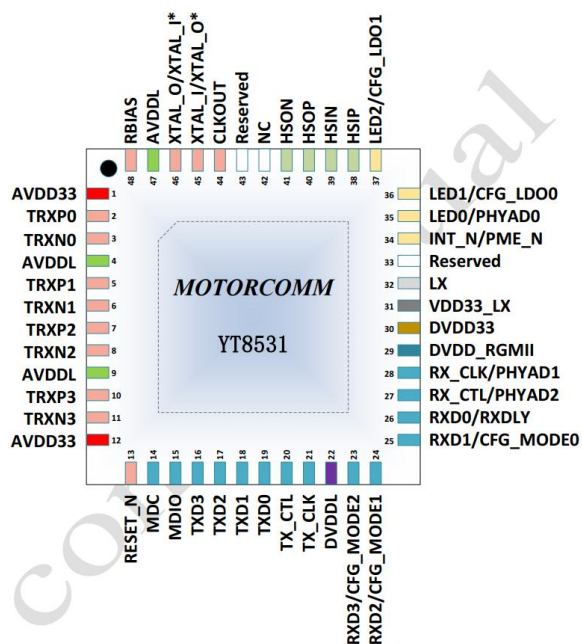
- 100BASE-T IEEE 802.3ab Compliant
- 100BASE-TX IEEE 802.3u Compliant
- 10BASE-Te IEEE 802.3 Compliant
- Support 100BASE-X / 100BASE-FX
- Supports RGMII/SGMII MAC interface
- Supports IEEE 802.3az-2010 (Energy Efficient Ethernet)
- Supports Synchronous Ethernet (Sync-E)
- Built-in Wake-on-LAN (WOL) over UTP/Fiber
- Supports interrupt function over UTP/Fiber
- Supports Parallel Detection
- Crossover Detection & Auto-Correction
- Automatic polarity correction
- Baseline Wander Correction
- Supports 120m for CAT.5E cable in 100BASE-T
- Selectable 3.3V/2.5V/1.8V signaling for RGMII.
- Supports 25MHz external crystal or OSC
- Provides 25MHz/125MHz clock source for MAC
- Provides 3 network status LEDs
- Supports Link Down Power Saving (Sleep Mode)
- Supports SERDES (SGMII/100BASE-X/100BASE-FX)
- Supports 100BASE-X/100FX unidirection
- Supports Fiber-to-UTP Media Converter mode or SGMII-to-RGMII Bridge mode
- Supports UTP/Fiber Auto Detection
- Supports 18k bytes jumbo frame for 100BASE-T and 100BASE-TX, and 10k bytes for 10BASE-Te
- Built-in Switching Regulator for core power 1.1V
- Built-in LDO for RGMII IO power 2.5V/1.8V
- Industrial grade manufacturing process for YT8531SH
- 3.3V and 1.1V power supply
- 48-pin QFN Green Package

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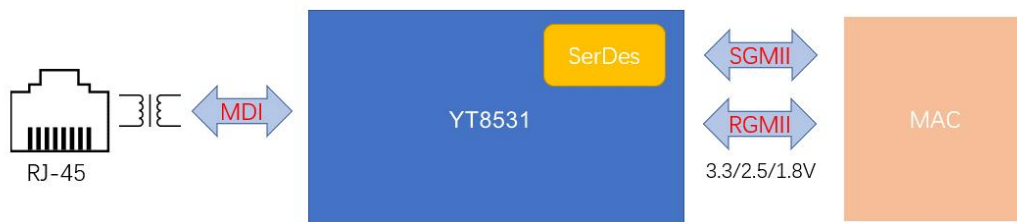
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主要功能

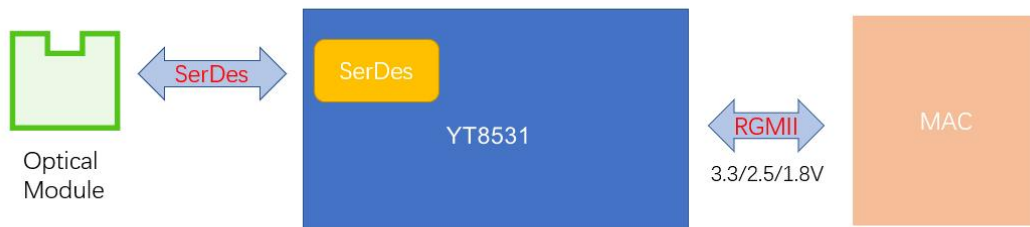


应用模式

UTP (UTP<->RGMII / UTP<->SGMII) APPLICATION



FIBER (FIBER<->RGMII) APPLICATION

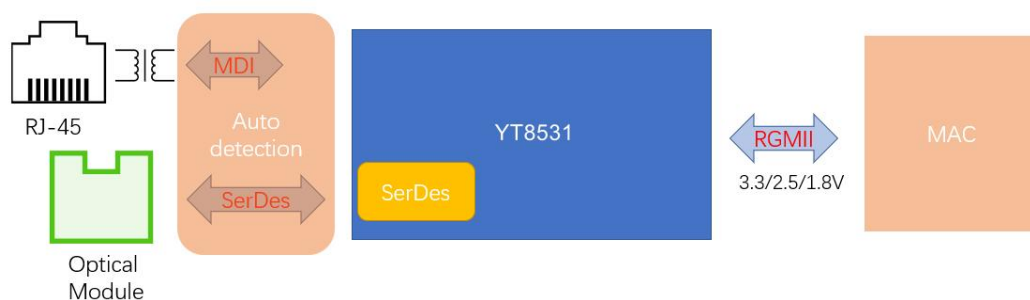


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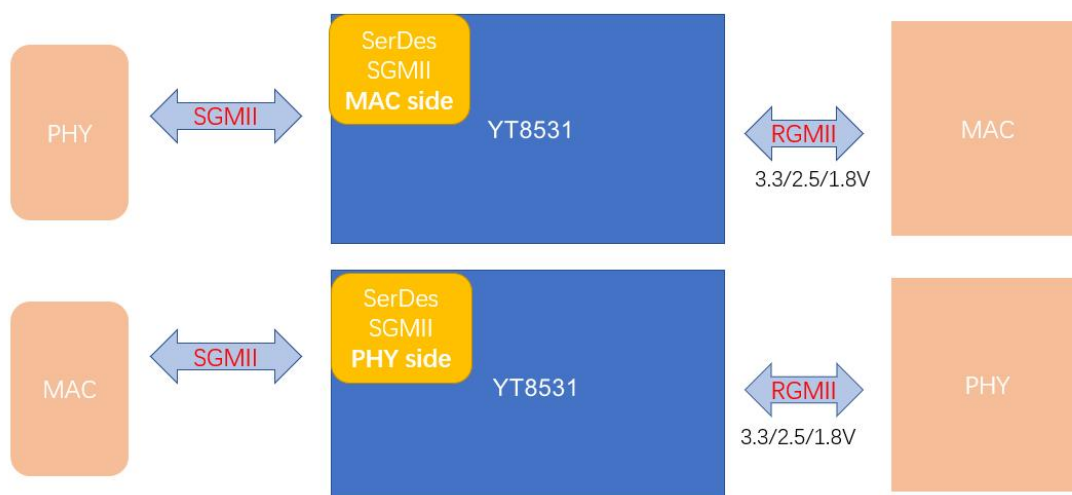
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UTP/FIBER TO RGMII (UTP/FIBER MEDIA AUTO DETECTION RGMII) APPLICATION



SGMII TO RGMII (SGMII <->RGMII BRIDGE MODE) APPLICATION



FIBER TO UTP (UTP<->FIBER MEDIA CONVERTER) APPLICATION

