

BCM54213PE

Single Port RGMII Gigabit Ethernet Transceivers

Product Overview

04-12-2021

For the most up-to-date information, visit www.mouser.com or the supplier's website.

Description

BCM54213PE is a triple-speed 1000BASE-T/100BASE-TX/10BASE-T Gigabit Ethernet (GbE) transceiver integrated into a single monolithic CMOS chip. The device performs all physical-layer functions for 1000BASE-T, 100BASE-TX, and 10BASE-T Ethernet on standard category 5 UTP cable. 10BASE-T can also run on standard category 3, 4, and 5 UTP. The BCM54213PE is a highly integrated solution combining digital adaptive equalizers, ADCs, phase locked loops, line drivers, encoders, decoders, echo cancellers, crosstalk cancellers, and all required support circuitry.



Based on Broadcom's proven digital signal processor technology, the BCM54213PE is designed to be fully compliant with RGMII, allowing compatibility with industry-standard Ethernet MACs and switch controllers. Designed for reliable operation over worst-case category 5 cable, the BCM54213PE automatically negotiates with its link partner to determine the highest possible operating speed. The device detects and corrects most common wiring problems. The BCM54213PE features CableChecker™ diagnostics, which detects common cable problems including shorts, opens, and cable length. Applications include GbE switches and uplinks, management ports, industrial automation, Customer Premise Equipment (CPE), video surveillance, and LED controller.

Features

- Single-chip integrated triple-speed Ethernet transceiver
- 1000BASE-T IEEE 802.3ab
- 100BASE-TX IEEE 802.3u
- 10BASE-T IEEE 802.3
- 100BASE-EFX
- Supports RGMII MAC interface
- Supports SOFT-RESET
- Ethernet@Wirespeed™
- Integrated voltage regulator
- Trace matched output impedance
- Line-side loopback

Features

- Low EMI emissions Cable plant diagnostics
- Robust CESD tolerance
- Support for jumbo packets up to 10 KB
- Detection and correction of pair swaps (MDI crossover), pair skew, and pair polarity
- Advanced power management
- Super-isolate mode
- Wake-on-LAN (WOL)
- IEEE 802.3az-compliant support
- Support for native EEE MACs
- Support for legacy non-EEE MAC using AutogrEEEn® mode
- AutogrEEEn+
- 36-pin QFN package

Applications

- GbE switches and uplinks
- Management port
- Industrial automation
- Customer Premise Equipment (CPE)
- Video surveillance
- LED controller

Mouser Part Number(s)

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To learn more, visit www.mouser.com/broadcom-bcm54213pe-rgmii-gbe-transceiver/