



OCTAL 10/100BASE-TX ETHERNET BroadR-Reach™ TRANSCEIVER

FEATURES

- Eight 10BASE-T/100BASE-TX and BroadR-Reach™ transceivers in a single fully integrated 65 nm CMOS chip
- Full duplex operation at the rate of 10 Mbps and 100 Mbps over one, two, and four pair of unshielded twisted pair cable up to 1000m, depending on cable quality.
- Full duplex 100 Mbps and 10 Mbps operation over point-to-point coax cable
- S3MII interface
- Internal 100Ω twisted pair termination resistors
- Supports 100BASE-FX on copper interface
- Enhanced LED driver modes
- Fully compliant with IEEE 802.3™, IEEE 802.3u, and IEEE 802.3ab standards
- Line-side loopback
- Low EMI emissions
- Hardware-accelerated CableChecker™ diagnostics
- Robust cable-sourced electrostatic discharge (CESD) tolerance
- Support for jumbo packets
- IEEE 1149.1 (JTAG) and 1149.6 (AC-JTAG) boundary scan

SUMMARY OF BENEFITS

- Low-cost, and low-power 8-port integration enables single-row, high-port density switches.
- Enables new IP services that require extended reach over one, two, and four pairs of either CAT5 or telephony grade cables
- Each port individually configurable as BroadR-Reach 10/100 or standard Ethernet 10/100
- Low-cost solution for service provider access switches and enterprise/SMB managed and unmanaged switch applications
- Lowers system BOM cost and simplifies system design
- Internal 100Ω twisted pair termination resistors eliminate need for external resistors, saving eight resistors per port.
- Provides compatibility with IEEE 802.3 standard devices operating at 10 Mbps and 100 Mbps, at half-duplex and full-duplex
- Eases system-level debug
- Enables use of low-cost magnetics, even in high-density (48+) designs
- CableChecker characterizes cable plant condition and immediately indicates cabling issues.
- Operates with larger packets for wider range of packet protocol support and improved efficiency

BCM54881 System Diagram



