



## 10/100BASE-TX SINGLE-CHANNEL SIGNI-PHY™ TRANSCEIVER

### BCM5221 FEATURES

- Power Supply: 2.5V or 3.3V
- Integrated Voltage Regulator to Allow Operation from a Single Supply Source
- Power Consumption: <275 mW
- Unique Energy Detection Circuit to Enable Intelligent Power Management
- HP Auto-MDIX
- Cable Length Indication
- Cable Noise Level Indication
- Robust CESD Tolerance
- Cable Length Greater Than 140 meters
- Well Under 10 PPM Defect Ratio Quality
- ±10% Voltage Tolerance
- Industrial Temperature Range (-40 to 85C)
- MII and RMII Configurable
- IEEE 1149.1 (JTAG) Scan Chain Support
- MII Management Via Serial Port
- Layout-Compatible with BCM5201
- 10BASE-T/100BASE-TX/FX IEEE 802.3u Fast Ethernet Transceiver
- Glueless TX-to-FX Media Conversion
- 64-pin TQFP or 64-pin BGA Package

### SUMMARY OF BENEFITS

- **Low power and intelligent power management**
  - Increased active working time
  - Prolonged battery life in active standby
  - Increased reliability
- **Improved ease of use and installation, reduced support cost**
  - Straight-through or cross-over cables accommodated independent of installation
  - Advanced cable diagnostic features to enable remote monitoring and debug of cabling infrastructure
  - Resistance to CESD to reduce product destruction and product returns
- **DSP-based Signi-PHY™ architecture to ensure performance over temperature, voltage and process variation**
  - Proven in over 450,000,000 Fast Ethernet ports
- **Faster design turn-around with BCM5201 layout compatibility**
- **Ease of manufacturing with JTAG support**
- **Fully integrated TX/FX PHY transceiver (MII/RMII-to-TX magnetics or FX optics)**
  - Lower system cost
  - Simplified system and board design

### Embedded 10/100 BASE-TX Application

