



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

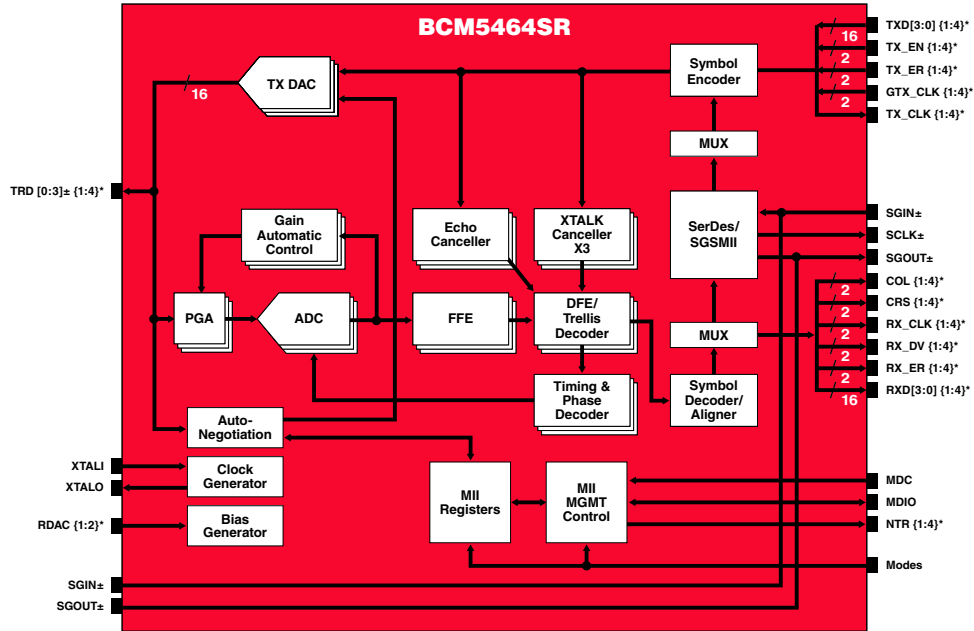
Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





# OVERVIEW



## BCM5464SR Reference Design

The BCM5464SR consists of four complete 10/100/1000BASE-T Gigabit Ethernet transceivers integrated on a single monolithic CMOS chip, and is a member of Broadcom's QuadSquad™ family of quad Gigabit Ethernet PHYs. The BCM5464SR is optimized for low-power and small footprint size to enable high port density applications. The BCM5464SR enables a new class of cost effective Gigabit Ethernet equipment by lowering system cost and reducing power dissipation by nearly 25%, driving the delivery of Gigabit bandwidth to the desktop.

The BCM5464SR digital signal processor based architecture and advanced power management techniques combine to achieve robust and low-power operation over the existing Category 5 twisted-pair wiring. The BCM5464SR architecture not only meets the requirements of IEEE's 802.3, 802.3u, and 802.3ab, but maintains the industry's highest level of margin over IEEE requirements for echo, NEXT, and FEXT. Low-power is key to implementing high-density Gigabit switches, and the BCM5464SR has the lowest power in the industry at less than 750 mW per port. In addition, the BCM5464SR has extremely low EMI emissions, which reduces the design constraints required to meet EMI radiation specifications.

The BCM5464SR supports RGMII, SGMII, and SerDes MAC interfaces. A unique feature of the BCM5464SR is its ability to support both copper and fiber networks, with an integrated SerDes PHY interface that can connect directly to a fiber-optic module. Switching between copper and fiber media can be accomplished either automatically or through software control. The BCM5464SR monitors copper link and fiber signal detect

status, and automatically swaps either copper traffic or fiber traffic to the MAC/switch based on priorities set at initialization.

This device is another member of Broadcom's 0.13-µm Gigabit copper PHY family, joining the BCM5404, BCM5414, BCM5421, BCM5421S, BCM5424, and BCM5434. The 0.13-µm process is the optimal process that offers the best performance, lowest cost, and lowest power for Gigabit copper solutions. Devices based on the 0.13-µm process offer an excellent long term cost curve, enabling better cost reduction over time compared to older technologies without having to redesign or requalify a new part.

Each port of the BCM5464SR is fully independent and has individual interface, control and status registers, and incorporates a number of advanced features. A link quality indicator LED gives installers an instant visual indication if there are any problems with the wiring plant supporting operation at the preferred speed. This includes physical wiring defects that the BCM5464SR cannot automatically correct for, channel conditions such as excessive cable length and return loss, crosstalk, echo, and noise. Broadcom's cable analyzer software can be used with the device to provide remote management of the cable and a first level of diagnostics and fault isolation.

The BCM5464SR also has ESD tolerance well above typical industry standards. This prevents ESD damage not only during manufacturing but during CESD events in the field. The CESD is an ESD event that occurs when an electrically charged network cable is plugged into a network port, which is an issue becoming more prevalent with recent cable installations. The BCM5464 can tolerate over 4 kV of CESD.

Broadcom®, the pulse logo, Connecting everything®, and the Connecting everything logo are among the trademarks of Broadcom Corporation and/or its affiliates in the United States, certain other countries and/or the EU. Any other trademarks or trade names mentioned are the property of their respective owners.

Connecting  
everything®



**BROADCOM CORPORATION**  
16215 Alton Parkway, P.O. Box 57013  
Irvine, California 92619-7013

© 2006 by BROADCOM CORPORATION. All rights reserved.

5464SR-PB02-D1 08/15/06

Phone: 949-450-8700  
Fax: 949-450-8710  
E-mail: info@broadcom.com  
Web: www.broadcom.com