Chipsmall

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

Connecting everything®

SEVEN-PORT MANAGED 10/100 ROBOSWITCH™

FEATURES

- **Highly integrated, 65 nm process, seven-port 10/100 Switch integrating:**
  - Five 10/100 MACs with five integrated 10/100 PHYs
  - One 10/100 MAC with MII/RvMII/RMII interface
  - One 10/100/1000 MAC with RGMII/MII/RvMII/RMII interface

- **Performance**
  - 2K MAC
  - 2 KB max frame size

- **Virtual Local-Area Network (VLAN)**
  - 4K-entry port-based and 802.1Q VLAN (full 4K range)
  - VLAN based rate limiting

- **Quality of Service (QoS)**
  - 4 CoS queues – Port, 802.1p, and DiffServ

- **Security**
  - IEEE 802.1x support for secure user authentication

- **BroadSync™ HD**
  - Supports IEEE 802.1 Audio Video Bridging (AVB) draft standard

- **Traffic control and network resiliency**
  - Ingress rate limiting and egress rate shaping
  - Spanning Tree Protocol/Rapid Spanning Tree Protocol/Multiple Spanning Tree Protocol
  - Port mirroring
  - Full MIB counter set supported
  - IPv4 IGMP/IPv6 MLD snooping
  - Redirect reserved multicast MAC addresses to CPU

- **Low-Power Consumption**
  - Less than 0.7W full power
  - Green features including auto power down, sleep, and deep sleep modes

- **Technology and physical specifications**
  - State-of-the-art 65 nm LP, 6-layer metal technology
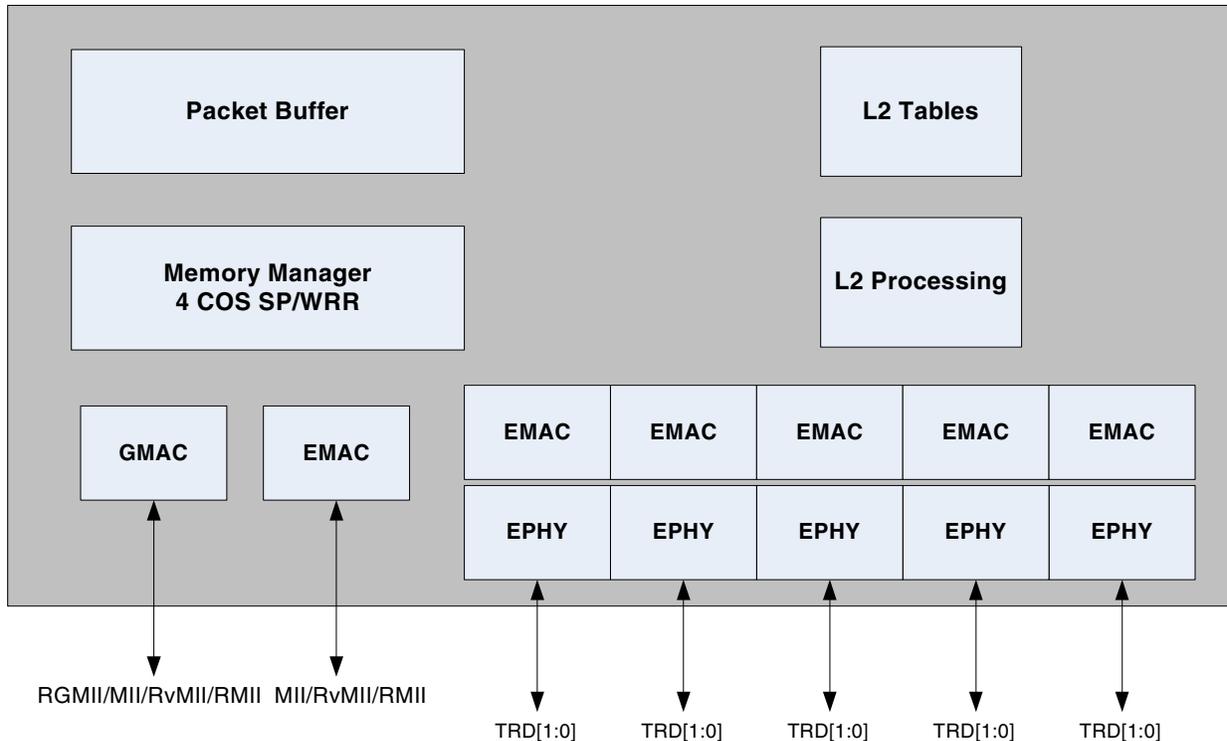 - 1.2V core and 2.5V/3.3V I/O

SUMMARY OF BENEFITS

- **Enables next-generation six Fast Ethernet + one Gigabit Ethernet switches with enhanced L2+ features**

- **High level of integration provides for cost-effective designs**

- **Utilizes field-proven 10BASE-T/100BASE-TX Fast Ethernet transceivers, lowering overall system interoperability and reliability risks.**

  VLAN feature insures proper layer-2 isolation and security

- **Highly flexible 4K-entry VLAN implementation with support for full 4K range**

- **802.1Q-based VLAN and flexible priority queues mapped to selectable protocols such as 802.1p, DiffServ, and COS enable the switch to be designed into a variety of applications for multimedia and data traffic.**

- **802.1x port and MAC-based network security to keep the network running efficiently**

  Enables multicast switching with IGMP and MLD snooping without expensive L3 multicast routing

  BroadSync™ HD enabled for guaranteed QoS and bandwidth, latency, and time-sync for audio/visual traffic between networked electronic devices

- **WAN port allows for one of the ports to be specified for WAN connectivity**

- **Significant power savings with innovative green modes and 65 nm LP process technology**

BCM53101 Applications

BROADCOM®

| Packet Buffer | | L2 Tables |
| Memory Manager 4 COS SP/WRR | | L2 Processing |

| GMAC | EMAC | EMAC | EMAC | EMAC | EMAC | EMAC |
| | | EPHY | EPHY | EPHY | EPHY | EPHY |

RGMII/MII/RvMII/RMII   MII/RvMII/RMII

TRD[1:0]   TRD[1:0]   TRD[1:0]   TRD[1:0]   TRD[1:0]

BCM53101 Block Diagram

Optimized for L2 switching, the BCM53101 is a feature-enhanced seven-port switch to the industry-leading BCM5325E RoboSwitch™. This device combines all the functions of a high-speed switch system, including packet buffers, PHY transceivers, MACs, address management, and a non-blocking switch fabric, into a 65 nm LP process.

The BCM53101 contains five full-duplex 10BASE-T/100BASE-TX Fast Ethernet transceivers connected to the five on-chip 10/100 MACs. In addition, a sixth 10/100 MAC is available through the MII/RvMII interface. The BCM53101 also features a 10/100/1000 MAC, which can be used to connect to an external CPU via the RGMII/MII/RvMII interface.

The BCM53101 also integrates several gigabit-class features such as 4K-entry VLAN, 2K-entry MAC addresses, ingress rate limiting and egress rate shaping, port mirroring, IGMP/MLD snooping, and trap reserved MAC addresses to CPU, among others.

The BCM53101 is designed from the ground up for lower power consumption. The power-efficient on-chip PHYs help lower power consumption by over 50% compared to its predecessor, the BCM5325E. Fabricated using 65 nm LP process, the device consumes less than 0.7W. Additionally, the BCM53101 incorporates several green modes such as auto-power down, sleep mode, and a deep sleep mode (needs external CPU).

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