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Connecting
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BCM53128/BCM53128V
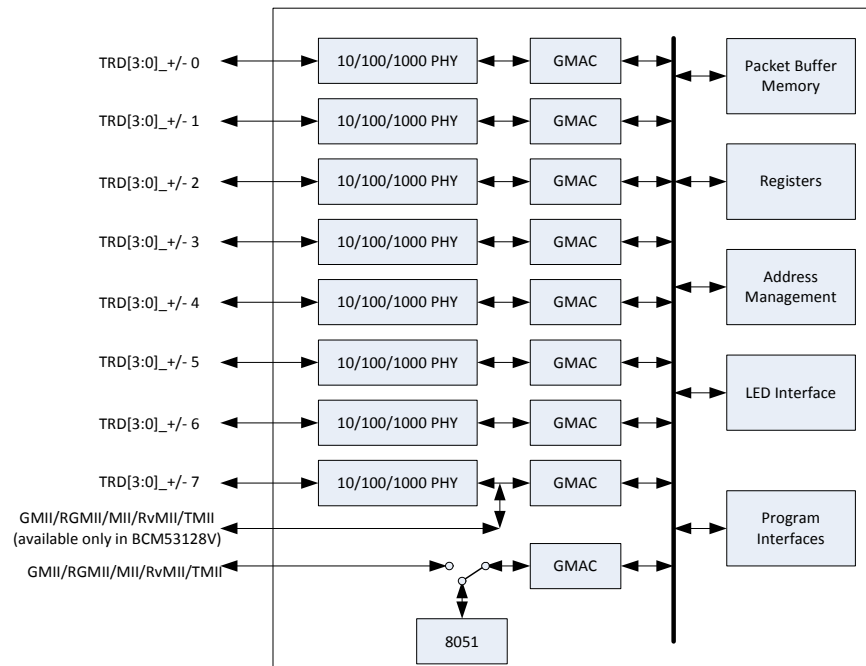## PRODUCT Brief

9-Port Integrated Gigabit Energy Efficient Ethernet™ Switch

FEATURES

- IEEE 802.3az Energy Efficient Ethernet™-compliant, highly integrated 9-port switch

- Integrated on-chip uC to manage low-power modes automatically and support packet processing features such as QoS and Security

- Power saving Green technology

- Supports RGMII, MII, RvMII, TMII, GMII on uplink port

- Pin compatible with current BCM53118 solution
  (In 8-port GPHY and 8-port GPHY + 1 uplink port configuration)

BENEFITS

- Saves more than 70 percent power during EEE mode compared to non-EEE mode

- Individual ports can automatically detect short cable lengths and scale power appropriately.

- Unused ports can be intelligently power down to conserve power.

- Very low power consumed in active mode (with full traffic on all ports)

- Ability to bypass one internal PHY to support two direct GMAC connections (supported with BCM53128V)

- Drop-in replacement of current generation part
  (In 8-port GPHY and 8-port GPHY + 1 uplink port configuration)

BCM53128/BCM53128V Block Diagram

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OVERVIEW

Broadcom's 9-port gigabit switch solution supports the IEEE 802.3az specification for Energy Efficient Ethernet. The BCM53128/BCM53128V is designed to be the optimal solution for unmanaged, router, and video gateway applications by incorporating lower power consumption, more features, and pin compatibility. Building upon industry-leading 65 nm RoboSwitch™ architecture, the BCM53128/BCM53128V can lower the power consumption by an additional 10 percent when compared to the previous generation device in active mode. The BCM53128/BCM53128V also supports Broadcom's Green technology that can automatically detect short cable lengths to scale power or turn the port off completely when not used. In addition, the BCM53128/BCM53128V includes an integrated microcontroller to support all of the power management features in the device. The microcontroller can also be used to support basic packet processing features such as QoS and security as it has the ability to transmit and receive. The BCM53128/BCM53128V can interconnect with other devices by using the dedicated uplink port which supports multiple interfaces including RGMII, GMII, MII, and Turbo MII. Specifically architected to support video gateway applications, the BCM53128V can bypass one internal PHY to support two direct GMAC connections, thereby increasing the number of ports available for gateway requirements. The BCM53128/BCM53128V is packed with features, including VLAN, VLAN double tagging, per port QoS, jumbo frame support, DoS prevention engine, per port rate control, and MIBs management. The BCM53128 is pin-for-pin compatible with the previous generation solution which eliminates board redesign and maximizes time-to-market. The BCM53128/BCM53128V solidifies Broadcom's leadership in Ethernet switching technology by delivering an optimized solution for the desktop unmanaged, router, and video gateway markets.

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