

Product Brief

Intel® 82563EB/82564EB
Gigabit Ethernet Controllers



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High-performance Gigabit Network Connectivity with support for Intel® I/O Acceleration Technology

- High-performing, Gigabit Ethernet connection for Intel® Xeon® processor-based servers
- Simple installation and maintenance with Intel® SingleDriver™ technology
- Supports Intel® I/O Acceleration Technology¹ (Intel® I/OAT)
- Allows easy scaling to multiple LAN ports by teaming with Intel® PRO/1000 Server Adapters



Overview

Intel® 82563EB Gigabit Platform LAN Connect is a Dual Port 10/100/1000BASE-T PHY, and the Intel® 82564EB Gigabit Platform LAN Connect is a Single Port 10/100/1000BASE-T PHY. Both controllers interface via the GLCI to the integrated LAN controller in the Intel® 6321 ESB I/O Controller Hub. The 82563EB and 82564EB both support Intel I/OAT, which helps move network data more efficiently through Dual-Core Intel® Xeon® processor-based servers to provide fast, scalable, and reliable GbE LAN capabilities.

- **Flexible, low-cost system design:** The Intel 82563EB/82564EB network components provide a small package (14 x 14 mm) networking option for convenient board layout. Additionally, the 82563EB/82564EB network components are designed to be footprint compatible so that single-board designs can accommodate both single GbE and dual GbE networking options.

- **Intel I/O Acceleration Technology:** The Intel 82563EB and 82564EB Network Connections are key components of Intel I/OAT on Dual-Core Intel Xeon processor-based servers with the Intel® 5000 Series chipsets. Intel I/OAT includes architectural advancements in the CPU, chipset, and LAN controller to move data more efficiently through Dual-Core Intel Xeon processor-based servers for fast, scalable, and reliable networking. Intel I/OAT provides network acceleration that scales seamlessly across multiple Ethernet ports and is a safe and flexible choice because it is tightly integrated into Windows* and Linux* operating systems.
- Platform hardware assists plus an optimized TCP/IP stack accelerates network I/O performance.
- Optimized network acceleration hardware improves the efficiency of the server processor resources.
- Multi-port scaling provides increased throughput and fail-over protection.



- Direct system memory access supports an unlimited number of network connections.
- Supported natively by the trusted TCP/IP stack in Microsoft Windows and Linux.
- **Simplified installation and maintenance:** The Intel 82563EB/82564EB network components are supported by Intel SingleDriver technology, which allows one driver to work for all Intel® Gigabit Network Connections. Intel SingleDriver technology simplifies network connection installation, management, and maintenance with a common software driver for all Intel® network connections in the server, including add-in network adapters.
- **Made with Intel® Lead-Free Technology²:**
The 82563EB/82564EB network components are packaged in a lead-free, 14 x 14 mm, 100-pin TQFP package to save board space and meet worldwide environmental protection regulations.

Specifications: Intel® 82563EB/82564EB Gigabit Network Connections

Electrical

Power supply	▪ 1.2 V, 1.9 V, 3.3 V
Typical targeted power dissipation	▪ < 1W per port at 1000 Mbps active

Packaging

Operating temperature (T _A)	▪ 0° C to 60° C (maximum); simplified thermal design
Storage temperature	▪ -40° C to 125° C
Package type	▪ Lead-free ² 100-pin TQFP, 14 x 14 mm

Component Overview

Controller	Description	Order Code
82563EB	Dual Port 10/100/1000BASE-T PHY	HY82563EB (lead-free package)
82564EB	Single Port 10/100/1000BASE-T PHY	HY82564EB (lead-free package)

For more information, contact your Intel sales representative.

¹ Intel® I/O Acceleration Technology (Intel® I/OAT) requires an operating system that supports Intel I/OAT.

² Lead has not been intentionally added, but lead may still exist as an impurity below 1000 ppm.

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