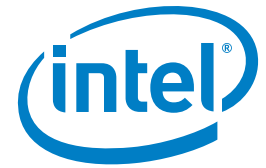


PRODUCT BRIEF

Intel® 82579 Gigabit Network Connections
Network Connectivity/Ethernet Controllers



Intel® 82579 GbE Controller Network Connection

High-performance Gigabit Network Connectivity with Support for Intel® vPro™ technology.



Overview

The Intel® 82579 family of Gigabit Ethernet Controllers provides compact, single-port integrated physical layer devices that connect to the Intel® 6 Series Express chipsets. The 82579 family of products are gigabit copper networking components for mobile, desktop, workstation, embedded and value-server designs that have critical space and power constraints.

Key Details

Reduced Power and Energy Savings:

The Intel® 82579 family reduces the power consumption in all power states compared to previous generations of Intel controllers. While in active-idle Intel® has implemented Energy Efficient Ethernet (EEE)¹, a new IEEE* standard. With EEE Intel has reduced the idle power of the gigabit link from about 500 mW to nearly 50 mW providing a significant energy savings. For mobile designs, Intel's Auto Connect Battery Saver can help reduce the cable-disconnected power of the chip to about 30 mW while still maintaining full functionality. The products also support advanced link downshifting capabilities to provide additional power headroom for system regulatory compliance (such as Energy Star*) by lowering the link speed under certain conditions to save power.

Intel® Business Client Features: The Intel® 82579LM supports Intel® AMT², which is a part of Intel's vPro™ technology on notebooks, desktop, and workstation systems. Intel vPro technology provides built-in manageability, proactive security, and energy-efficient performance for business applications.

Simplified installation and Maintenance:

Intel® 82579LM products also support the Intel Stable Image Platform Program (SIPP), which provides system image stability (both hardware and software) and consistency for at least 12 months from the product launch date. Helping IT better manage their client environment.

Performance-Enhancing Features: Each of the Intel® 82579 family of network components includes advanced interrupt-handling features to reduce CPU overhead. Other performance-enhancing features include offloading TCP/UDP (for both IPv4 and IPv6) checksum calculations and performing TCP segmentation. Advanced features such as Jumbo Frame support for extra-large packets and Receive Side Scaling are also supported.

Advanced Security: The Intel® 82579LM supports the latest Ethernet security standard known as MACsec³ (IEEE standard 802.1ae). MACsec provides robust security at a low level of the system by providing MAC layer (layer 2) encryption and authentication capability hop-by-hop. This enables IT to fully encrypt network traffic, but still perform traffic shaping and analysis at the router and doesn't interfere with existing network protocols.

Flexible, Low-Cost System Design:

The Intel® 82579 family of networking components provide a small package (6x6 mm) networking option for convenient board layout. The Intel® 82579 has flexible power options including sharing the 1.05 Vdc supply with the chipset or it can be configured using the integrated switching voltage regulator (iSVR), removing the need for an external regulator and reducing overall cost and board space. Additionally, the 82579 family of products help to reduce board space by using a shared FLASH design. Finally, low thermal design power (TDP) helps improve board placement flexibility.

Environmentally friendly design:

The Intel® 82579 family of products are all lead free⁴ and halogen free⁵ in their silicon and package design to reduce the potential for environmental impact.

Comparison of Controller Features

| Features | 82579V | 82579LM |
|--|--------|---------|
| 10 Base T (IEEE 802.3 specification conformance) | ✓ | ✓ |
| 100 Base TX (IEEE 802.3 specification conformance) | ✓ | ✓ |
| 1000 Base T (IEEE 802.3 specification conformance) | ✓ | ✓ |
| Auto-Negotiation (IEEE 802.3u) | ✓ | ✓ |
| Intel® vPro™ ² technology | | ✓ |
| Intel® Stable Image Platform Program (SIPP) | | ✓ |
| Intel® Standard Manageability | ✓ | ✓ |
| Energy Efficient Ethernet ¹ (IEEE 802.3az) | ✓ | ✓ |
| iSCSI Boot Support | | ✓ |
| MACsec (802.1ae) ³ | | ✓ |
| TCP/UDP checksum and segmentation offload (IPv4 and IPv6) | ✓ | ✓ |
| Receive Side Scaling | ✓ | ✓ |
| Dual TX and RX queues | ✓ | ✓ |
| Jumbo Frames (up to 9K) | ✓ | ✓ |
| Teaming | ✓ | ✓ |
| Integrated Auto Connect Battery Saver (ACBS) battery savings | ✓ | ✓ |
| VLAN Tagging (802.1q/ 802.1p) | ✓ | ✓ |
| Timing and Synchronization (802.1as / 1588) | ✓ | ✓ |
| Shared Switched Voltage Regulator (SVR) with chipset | ✓ | ✓ |
| Integrated Switched Voltage Regulator (iSVR) | ✓ | ✓ |
| Shared FLASH with system BIOS | ✓ | ✓ |

For more information on the Intel® 82579 Gigabit Ethernet Controller, please visit www.intel.com/go/connectivity.

Component Summary

| CONTROLLER ^A | DISTINGUISHING FEATURES | ORDER CODES |
|-------------------------|---|-------------|
| Intel® 82579LM | <ul style="list-style-type: none"> Corporate LAN product with support for Intel® vPro™ technology, Intel® AMT², Energy Efficient Ethernet (802.3AZ)¹, MACsec (802.1ae)³, Intel® SIPP, iSCSI Boot, Server OS support. Intended for mobile, desktop, workstation, entry server and embedded designs. | WG82579LM |
| Intel® 82579V | <ul style="list-style-type: none"> Consumer LAN product with support for Energy Efficient Ethernet (802.3AZ)¹, Intel® Standard Manageability, ACBS and standard Gigabit networking features Intended for mobile, desktop, and embedded design | WG82579V |

¹ Energy Efficient Ethernet (EEE) low-power idle requires that both link partners support IEEE802.3az.

² Intel® Active Management Technology (AMT) requires specific Intel chipsets in addition to the Intel 82579LM networking component. Intel Standard Manageability requires specific Intel chipsets in addition to the Intel 82579LM networking component.

³ MACsec (802.1ae) security requires Intel® 82579LM with EEPROM bits set for MACsec support, a MACsec software supplicant (available from 3rd party vendors) and a MACsec-capable switch.

⁴ Lead has not been intentionally added, but lead may still exist as an impurity below 1000 ppm.

⁵ Lead and other materials banned in the RoHS Directive are either: (1) below all applicable substance thresholds as proposed by the EU or (2) an approved/pending exemption applies.

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