

Product Brief

Solarflare Solarstorm SFN5121T



Solarflare Solarstorm SFN5121T Dual Port 10GBT Server Adapter

The Solarflare® Solarstorm® SFN5121T dual-port, triple-speed 10GBASE-T server adapter delivers the industry's best application performance, lowest power consumption, and most scalable virtualization—enabling unmatched data center performance over installed and new UTP cabling.

With triple-speed 10GBASE-T, the SFN5121T supports asymmetric upgrades. Because 10GBASE-T auto negotiates with 1000BASE-T and 100BASE-TX, servers can be upgraded asynchronously with switches at the other end of the wire. Equipped to handle application loads of the latest multi-core processors, the SFN5121T also delivers unmatched power efficiency for the consolidation and deployment of high-density servers. The SFN5121T supports network convergence for concurrent iSCSI, NAS and FCoE traffic – while providing cost effective, power-efficient and high-performance network IO.

Lowest Power

At under 13 Watts, the SFN5121T consumes less than half the power of the leading competitors' products, and delivers 5-10x the efficiency of 1G Ethernet (Gbps/Watt). This not only makes a power efficient 10G network possible, it can save thousands of dollars of operating costs for a typical data center. The SFN5121T also meets the Energy Star™ requirement of less than 8 Watt/port power consumption.

Scalable, Hardware-Assisted Virtualization

The SFN5121T is designed to optimize virtualized application performance and maximize the use of network resources. With 10x the number of vNICs and virtual PCIe functions over the competition, it scales as the number of CPU cores and virtual machines increases for better performance and manageability.



Leadership Application Performance

The SFN5121T has the industry's lowest-latency along with full 40 Gbps bidirectional line-rate performance. Featuring a rich set of stateless offloads, it provides efficient acceleration of the most demanding network protocol tasks.

The SFN5121T features hypervisor bypass and SR-IOV, relieving network I/O bottlenecks hidden in virtualized environments, and allowing IT managers to allocate network resources directly to applications. This provides the best performance and the lowest CPU utilization in virtualized servers.

The SFN5121T is driver compatible with the SFN5122F product. It also supports Solarflare's OpenOnload™ application accelerator, a high-performance user-level network stack for Linux. OpenOnload bypasses kernel networking overheads and is binary compatible with standard APIs and applications.

Specifications

Product Number
SFN5121T
Dual port 10GBASE-T

Standards and Compliance

PCIe 2.0 5.0 GT/s
IEEE 802.3ae
IEEE 802.3x
1000BASE-T IEEE
10GBASE-T 802.3an
RoHS Compliant

Power (typical)

SFN5121T: < 13 W

Operating Range

0° to 70° C

Physical Dimensions

L: 16.74 cm (6.59 in)
W: 6.89 cm (2.71 in)
End bracket height:
PCI Express standard
12 cm (4.725 in)
PCI Express low-profile
7.92 cm (3.12 in)

Advanced Features and Benefits

Virtual NIC support	3X increase in performance & efficiency; 2048 Guest OS protected vNICs; SR-IOV
PCI Express	PCIe 2.0 @ 5.0 GT/s for full, 40 Gbps bi-directional bandwidth
10 Gigabit Ethernet	Supports high-performance 10GbE
Autonegotiation	100BASE-TX and 1000BASE-T
Cabling	Up to 100 meters on Category 6A, 37 to 55 meters on Category 6 per TIA TSB155 and IEEE 802.3an. Category 5E links supported per IEEE 802.3an Clause 55.7*
Low power modes	Wake on LAN, less than 6.5 W per port, Dynamic Power Scaling™
Low latency	Cut-thru architecture/interrupt coalescing
Receive side scaling (RSS)	Receive side scaling with Toeplitz hashing
Offloads	TSO, RSO; IPv4/IPv6; TCP/IP checksum; UDP multicast
Transmit rate pacing	Per queue pacing for guest OS bandwidth
Converged networking	OS-based iSCSI & OpenSource FCoE initiators; Concurrent Ethernet, TCP/IP, UDP, iSCSI, & FCoE traffic
iSCSI acceleration	iSCSI header & data digest CRC enabled
Adapter teaming/ Link aggregation	IEEE 802.3ad for redundant links
Jumbo frames	9000 byte MTUs for performance
IP flow filtering	Enables the hardware to direct packets based on IP, TCP & UDP headers
Intel QuickData™	Uses host DMA engines to accelerate I/O
Remote boot	Supports PXE & iSCSI boot
Management	ACPI v3.0, RMII, SNMP, SMBus, IPMI, UEFI, NC-SI (available option)
Virtualization offloads	Microsoft Hyper-V VMQ, VMware NetQueue, and XenServer direct access for virtualization acceleration
OS and OS-V Support	MS Windows Server 2003, 2008, 2008 R2; Linux RHEL4/5; SLES9/10/11; Solaris 10; VMware ESX 3.5, vSphere 4, Citrix XenServer 5.x

*Contact your local Solarflare sales office for more information about Category 5E cabling support