

Product Brief

Solarflare Solarstorm SFN5122F



Solarflare Solarstorm SFN5122F Dual Port SFP+ Server Adapter

The Solarflare® Solarstorm® SFN5122F dual port SFP+ server adapter delivers the industry's best application performance, lowest power consumption, and most scalable virtualization, enabling unmatched performance and scalability for virtualized data centers.

The SFN5122F is designed to address issues facing data center managers today. Equipped to handle the application loads of the latest multi-core processors, it also provides unmatched power efficiency for the consolidation and deployment of high-density servers. The SFN5122F supports network convergence for the concurrent support of iSCSI, NAS and FCoE traffic – while remaining true to the need for cost effective, power-efficient and high-performance network IO.

Lowest Power

At under 5 Watts, the SFN5122F 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 SFN5122F also meets the Energy Star™ requirement of less than 8 Watt/port power consumption.

Scalable, Hardware-Assisted Virtualization

The SFN5122F 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 SFN5122F delivers the industry's lowest-latency and 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 SFN5122F 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 SFN5122F also supports Solarflare's OpenOnload™ technology, 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

SFN5122F

Dual port SFP+

Standards and Compliance

PCIe 2.0 5.0 GT/s

IEEE 802.3ae

IEEE 802.3x

1000BASE-T SFP

RoHS Compliant

Power (typical)

SFN5122F: 4.9W

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 and server efficiency; 2048 protected vNICs for guest OSes; 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
SFP+ support	Direct-attach copper cables compliant with SFP+ MSA SFF-8431 and optical SFP+
1000BASE-T SFP support	Supports 1G 1000BASE-T SFP modules
Low latency	Cut through architecture and interrupt coalescing
Receive side scaling (RSS)	Receive side scaling with Toeplitz hashing distributes I/O load across CPU cores
Offloads	TSO, RSO; IPv4/IPv6; TCP/IP checksum; UDP multicast
Transmit rate pacing	Per queue pacing provides mechanism for enforcing bandwidth on guest OSes
Converged networking	OS-based iSCSI and OpenSource FCoE initiators; Concurrent Ethernet, TCP/IP, UDP, iSCSI, and FCoE traffic
iSCSI acceleration	Wire-speed performance with iSCSI header and 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 steer packets based on IP, TCP and UDP headers; Improves system cache behavior
Intel QuickData™	Uses host DMA engines to accelerate I/O
Remote boot	Supports PXE and iSCSI boot
Management	ACPI v3.0, RMII, SNMP, SMBus, IPMI, UEFI, NC-SI (available option)
Virtualization offloads	Support for Microsoft Hyper-V VMQ, VMware NetQueue, and XenServer direct access for virtualization acceleration
OS and OS-V Support	Microsoft Windows Server 2003, 2008, 2008 R2; Linux RHEL4/5; SLES9/10/11; Solaris 10;VMware ESX 3.5, vSphere 4; Citrix XenServer 5.x