



Dual-Port 10GbE SFP+ Onload Server Adapter

Solarflare® SFN6122F dual-port 10G Ethernet SFP+ Onload server adapter delivers unmatched message rates with low latency and jitter over standard Ethernet along with the lowest CPU utilization and power consumption, enabling the industry's best performance and scalability for financial services and other enterprise data centers.

SFN6122F is designed to address issues facing data center managers today. Equipped to handle increasing application loads of the latest multi-core processors, it delivers superior throughput and low latency, with minimal CPU load for the consolidation and deployment of high-density servers. The SFN6122F supports data networking with concurrent support of iSCSI and NAS traffic – while remaining true to the need for cost effective, power-efficient and high-performance network I/O.

Lowest Latency at Highest Message Rates

SFN6122F delivers the industry's lowest latency at high message rates to customers with leading edge financial services and enterprise data center deployments. SFN6122F also delivers the industry's highest message rate and lowest latency jitter, 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.

SFN6122F supports a wide range of drivers that are compatible with all Solarflare products, including the market-leading SFN5122F. SFN6122F also supports Solarflare's OpenOnload® application accelerator, a full-featured, high-performance user-level network stack for Linux. OpenOnload provides unprecedented low latency performance with application compatibility and protocol compliance, bypassing kernel and networking overheads, while featuring binary compatibility with standard APIs and applications.

Scalable, Hardware-Assisted Virtualization

With 10x the number of vNICs and virtual PCIe functions than the competition, SFN6122F performance scales as the number of CPU cores and virtual machines increase, resulting in enhanced application performance while supporting more applications per physical server. SFN6122F supports NetQueue, VMQ, and SR-IOV used to accelerate guest applications in leading hypervisors, such as VMware, Hyper-V, Linux KVM, and XenServer. This relieves network I/O bottlenecks in virtualized environments dedicating full network bandwidth directly to virtualized applications while maintaining full hypervisor management services.

Lowest Power

At less than 6 Watts, the SFN6122F consumes less than half the power of the leading competitors' products, and delivers 5-10x the efficiency of 1G Ethernet (Gbps/Watt). This results in a power efficient 10G network that can save thousands of dollars of operating costs for a typical data center. The SFN6122F is also compatible with the Energy Star® guideline for power consumption.

SolarflareSFN6122F

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Specifications

Product Number

SFN6122F

Dual-Port SFP+

Standards & Compliance

IEEE 802.3ae

IEEE 802.3ad

IEEE 802.1Q

IEEE 802.1p

IEEE 802.3x

RoHS Compliant

Power (typical)

SFN6122F: 5.9W

Operating Range

0° to 55° C

0 LFM, Min.

Physical Dimensions

L: 13.4 cm (5.3 in)

W: 6.9 cm (2.7 in)

End bracket height:

PCI Express standard

12.0 cm (4.7 in)

PCI Express low-profile

7.9 cm (3.1 in)

Advanced Features

I/O Virtualization

2048 guest OS protected vNICs; 254 Virtual Functions

PCI Express

PCIe Gen 2.0 compliant @ 5.0 GT/s for full, 40 Gbps bi-directional bandwidth

10 Gigabit Ethernet

Supports high-performance 10GbE

SFP+ Support

Supports optical & copper SFP/SFP+ modules; Direct-Attach, Fiber (10G or 1G), 1G/10G combo, 1000BASE-T SFP

1000BASE-T SFP Support

Supports 1G 1000BASE-T SFP modules

Low Latency

Cut-through architecture/intelligent interrupt coalescing

Receive Side Scaling (RSS)

Distributes IPv4/IPv6 loads across CPU cores; MSI-X minimizes interrupt overhead

Hardware Offloads

LSO, LRO, GSO; IPv4/IPv6; TCP, UDP checksums

Adapter Teaming/Link Aggregation

LACP, MLAG for redundant links & increased bandwidth

Jumbo Frames

9000 byte MTU for performance

IP Flow Filtering

Hardware directs packets based on IP, TCP, UDP headers

Advanced Packet Filtering

256 multicast filters; 4096 VLANs/port; adaptive TCP/UDP/IP, MAC, VLAN, RSS, RPS, RFS filtering; Accelerated Receive Flow Steering (RFS)

Intel QuickData™

Uses host DMA engines to accelerate I/O

Remote Boot

PXE, iSCSI boot; unattended installation

Management

ACPI v3.0, SNMP, SMBus, IPMI

Virtualization Support

ESX 3.5, vSphere 4.x, 5.0; Hyper-V; XenServer 5.6, 6.0; KVM; NetQueue; VMQ; SR-IOV

Operating Systems

RHEL 5, 6; MRG; SLES 10, 11; SLERT; other Linux; Windows Server 2003, 2008, 2008R2; OS X v10.6.x, v10.7; Solaris 10 (x86)

Regulatory product code: S6102

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