Product Brief
SFN5122F

Solarflare SFN5122F Dual-Port 10G Ethernet Enterprise Server Adapter

The Solarflare® SFN5122F dual-port 10G Ethernet SFP+ enterprise 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 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 IO.

LOWEST POWER

At less than 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 used to accelerate guest applications in leading hypervisors, including VMware, Hyper-V, and XenServer via direct guest access. This relieves network I/O bottlenecks hidden in virtualized environments, allowing IT managers to allocate network resources directly to applications. This enables the best performance and lowest CPU utilization in virtualized servers.

The SFN5122F is driver compatible with the SFN5121T 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.

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SPECIFICATIONS	ADVANCED FEATURES AND BENEFITS	
Product Number SFN5122F Dual port SFP+	I/O Virtualization	2048 guest OS protected vNICs; SR-IOV
	PCI Express	PCIe 2.0 @ 5.0 GT/s for full, 40 Gbps bi-directional bandwidth
Standards and Compliance PCIe 2.0 5.0 GT/s IEEE 802.3ae IEEE 802.3ad IEEE 802.3Q IEEE 802.3p IEEE 802.3x RoHS Compliant	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; IPv4/IPv6; TCP, UDP checksums, NetQueue/VMQ
Power (typical) SFN5122F: 4.9W	Adapter teaming / Link aggregation	LACP, MLAG for redundant links & increased bandwidth
	Jumbo frames	9000 byte MTU for performance
Operating Range 0º to 55º C 0 LFM, Min.	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 filtering
	Intel QuickData™	Uses host DMA engines to accelerate I/O
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)	Remote boot	Supports PXE, iSCSI, UEFI boot
	Management	ACPI v3.0, RMII, SNMP, SMBus, IPMI
	Virtualization support	VMware ESX 3.5, vSphere 4, Hyper-V, Red Hat KVM, XenServer 5.x Direct Guest Access
	OS Support	Windows Server 2003, 2008, Linux RHEL4/5/6; SLES9/10/11; Solaris 10