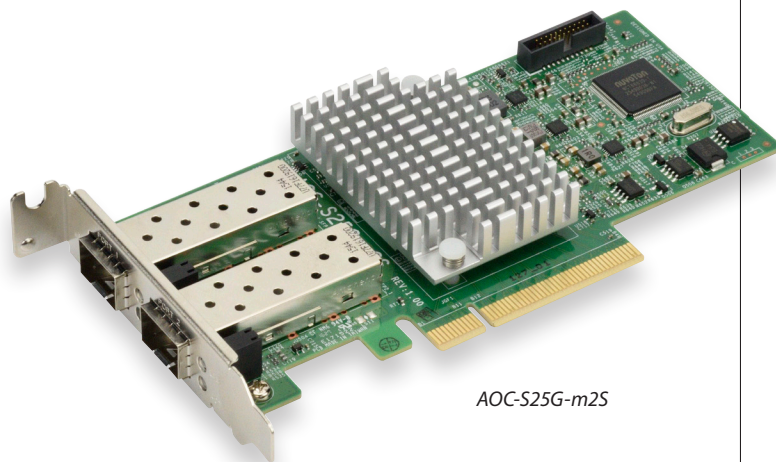


The Supermicro AOC-S25G-m2S is a leading edge 25GbE controller. Based on the Mellanox ConnectX®-4 Lx EN chipset with features such as VXLAN and NVGRE, it is backward compatible with 10GbE networks and addresses bandwidth demand from virtualized infrastructures in data center or cloud deployments. It supports the RoCE specification with CPU offload, delivering low-latency and high-performance over Ethernet networks. Supermicro® Asset Management and thermal detection give an extra layer of controller health management and peace of mind. The Supermicro AOC-S25G-m2S high performance 25GbE adapter solution is an excellent choice to enhance network connectivity in data centers and enterprise environments.

Key Features

- **Dual SPF28 Connectors**
- **Low-Profile, Short Length Standard Form Factor**
- **PCI-E 3.0 x8**
- **Mellanox ConnectX®-4 Lx EN Ethernet Controller**
- **Asset Management Features with thermal sensor**
- **Hardware offloads for VXLAN, NVGRE and GENEVE encapsulated traffic**
- **Low latency RDMA over Converged Ethernet (RoCE)**
- **PCI-SIG SR-IOV compliant**
- **Jumbo Frames support up to 9.6kB**
- **PXE support**
- **Erasure Coding Offload**
- **NC-SI for IPMI support**
- **RoHS compliant 6/6**



AOC-S25G-m2S

Specifications

General

- Mellanox ConnectX®-4 Lx EN dual-port 25Gbps controller
- Compact size low-profile standard form factor
- PCI-E 3.0 x8 (8GT/s, 5GT/s or 2.5GT/s) interface
- Dual SFP28 connectors
- Typical power consumption: 8.7W

Host Interface

- PCI-E 3.0 x8
- Message Signal Interrupt (MSI-X)

Networking Features

- 25G Ethernet Consortium 25 Gigabit Ethernet
- IEEE802.3ae 10 Gigabit Ethernet
- IEEE802.3az Energy Efficient Ethernet
- IEEE 802.3ap based auto-negotiation and KR startup
- IEEE 802.ad, 802.1AX Link Aggregation
- IEEE 802.1Q, 802.1p VLAN tags and priority
- IEEE802.1Qau (QCN) – Congestion Notification
- IEEE 802.1Qaz (ETS)
- IEEE 802.1Qbb (PFC)
- IEEE 802.1Qbg
- IEEE 1588v2
- Jumbo frame support (9.6KB)

CPU Offload Features

- RDMA over Converged Ethernet (RoCE)
- TCP/UDP/IP stateless offload
- LSO, LRO, checksum offload
- RSS, TSS, HDS, VLAN insertion/stripping. Receive flow steering
- Intelligent interrupt coalescence

Overlay Networks

- Stateless offloads for overlay networks and tunneling protocols
- Hardware offload of encapsulation and decapsulation of NVGRE and VXLAN overlay networks

Hardware-Based I/O Virtualization

- Single Root IOV
- Multi-function per port
- Address translation and protection
- Multiple queues per virtual machine
- Enhanced QoS for vNICs
- VMware NetQueue support

Storage Offloads

- RAID offload – erasure coding (Reed-Solomon) offload

Management Features

- Asset Management features with thermal sensor
- NC-SI for IPMI Support

Virtualization Features

- SR-IOV: up to 256 Virtual Functions
- SR-IOV: up to 16 Physical Functions per port
- 1K ingress and egress QoS levels
- Guaranteed QoS for VMs

Operating System Support

- RHEL/CentOS
- Windows
- FreeBSD
- VMware
- OpenFabrics Enterprise Distribution (OFED)
- OpenFabrics Windows Distribution (WinOF-2)
- XenServer

Remote Boot

- Remote boot over iSCSI
- PXE and UEFI

Operating Conditions

- Operating temperature: 0°C to 55°C (32°F to 131°F)
- Storage temperature: -40°C to 70°C (-40°F to 158°F)
- Storage humidity: 90% non-condensing relative humidity at 35°C

Physical Dimensions

- Card PCB dimensions: 14.2cm x 6.89cm (5.6in x 2.71in) (LxW)
- Height of end brackets: standard – 12cm (4.725in), low-profile – 8cm (3.15in)

Weight

- 89.58g (0.1975lb)

Supported Platforms:

- Motherboards with minimum PCI-E 3.0 x8 expansion slot
- Server Systems with low-profile or full-height PCI-E 3.0 x8 expansion slot
- NC-SI feature is only supported by Supermicro® motherboards with corresponding NC-SI connectors

Similar Products

Product Part Number	Form Factor	Speed	PCI-E	Connector Type	Total Ports	Chipset
AOC-STG-i4S	Standard Low Profile	10GbE	PCI-E 3.0 x8	SFP+	4	Intel® X710
AOC-STG-b4S	Standard Low Profile	10GbE	PCI-E 3.0 x8	SFP+	4	Broadcom BCM57840S
AOC-STGN-i1S	Standard Low Profile	10GbE	PCI-E 2.0 x8	SFP+	1	Intel® 82599EN
AOC-STGN-i2S	Standard Low Profile	10GbE	PCI-E 2.0 x8	SFP+	2	Intel® 82599ES
AOC-STG-i2T	Standard Low Profile	10GbE	PCI-E 2.1 x8	RJ45	2	Intel® X540
AOC-STG-i4T	Standard Low Profile	10GbE	PCI-E 3.0 x8	RJ45	4	Intel® XL710
AOC-STGS-i1T	Standard Low Profile	10GbE	PCI-E 3.0 x4	RJ45	1	Intel® X550
AOC-STGS-i2T	Standard Low Profile	10GbE	PCI-E 3.0 x4	RJ45	2	Intel® X550
AOC-S40G-i1Q	Standard Low Profile	40GbE	PCI-E 3.0 x8	QSFP+	1	Intel® XL710
AOC-S40G-i2Q	Standard Low Profile	40GbE	PCI-E 3.0 x8	QSFP+	2	Intel® XL710
AOC-S100G-m2C	Standard Low Profile	100GbE	PCI-E 3.0 x16	QSFP28	2	Mellanox ConnectX-4 EN

Optional Parts List

Product Part Number		Description
CBL-NTWK-0944-MS28C05M	SFP28 Copper Cable	0.5m 25GbE SFP28 to SFP28, Passive
CBL-NTWK-0944-MS28C10M	SFP28 Copper Cable	1m 25GbE SFP28 to SFP28, Passive
CBL-NTWK-0944-MS28C15M	SFP28 Copper Cable	1.5m 25GbE SFP28 to SFP28, Passive
CBL-NTWK-0944-MS28C20M	SFP28 Copper Cable	2m 25GbE SFP28 to SFP28, Passive
CBL-NTWK-0944-MS28C25M	SFP28 Copper Cable	2.5m 25GbE SFP28 to SFP28, Passive
CBL-NTWK-0944-MS28C30M	SFP28 Copper Cable	3m 25GbE SFP28 to SFP28, Passive
CBL-NTWK-0988-QS28C50M-1	QSFP28 to 4x SFP28 Copper Cable	5m 100GbE QSFP28 to 4x 25GbE SFP28, Passive
AOM-SFP28-25GbE-SR-1	SFP28 Transceiver	25GbE SFP28 Transceiver