

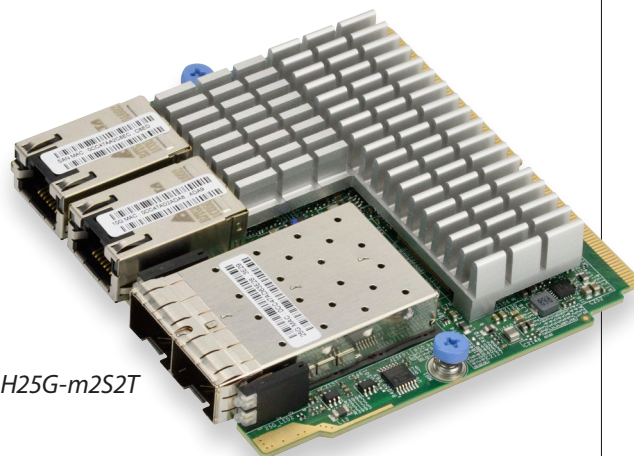
## Advanced 25GbE Ethernet Controller Super I/O Module (SIOM)

The Supermicro AOC-MH25G-m2S2T is one of the most feature rich 25GbE controllers in the market. Based on the Mellanox® ConnectX-4 Lx EN with features such as VXLAN and NVGRE; it provides flexible connectivity for different networking requirements. It is compatible with 10GbE networks and offers the most cost effective upgrades from 10GbE to 25GbE in Data Center and Cloud deployments.

The AOC-MH25G-m2S2T also supports an additional 2-ports of 10GbE RJ45 connectivity, based on the Intel® X550 controller, providing NC-SI for Remote Management. This versatile 25GbE controller is an excellent choice to enhance data center network connectivity when high speed throughput is required.

### Key Features:

- **Super I/O Module (SIOM) Form Factor**
- **Mellanox® ConnectX-4 Lx EN 25GbE controller**  
**Dual SFP28 connectors**
- **Intel® X550-AT2 10GbE controller, Dual RJ45 Connectors**
- **Hardware offloads for NVGRE, VXLAN and GENEVE encapsulated traffic**
- **SR-IOV for virtualization**
- **Low latency RDMA over Converged Ethernet (RoCE) (25GbE Controller only)**
- **Jumbo Frames Support**
- **NC-SI for Remote Management (10GbE Controller only)**
- **Asset Management Features with thermal sensor**
- **RoHS Compliant 6/6**



## Controller Specifications

- **General:**
  - Super I/O Module (SIOM) Form Factor
  - Mellanox® ConnectX-4 Lx EN 25GbE controller
    - Dual SFP28 connectors with speed up to 25Gbps per port
  - Intel® X550-AT2 10GbE 10GBase-T controller
    - Dual RJ45 connectors with speed up to 10Gbps per port
- **Cables Support:**
  - 25GbE SFP28: Direct attach copper cables and Fiber-optic cables (with required optional transceivers)
  - 10GbE RJ45: RJ-45 Category-6 up to 55m; Category-6A up to 100m
- **Power Consumption:**
  - Maximum 25W
- **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: 92mm (3.62in) x 87.1mm (3.43in) (W x D)
- **Supported Platforms:**
  - Supermicro® motherboards with Super I/O Module slot
  - Supermicro® server systems with Super I/O Module slotSee SIOM Compatibility Matrix online: [http://www.supermicro.com/support/resources/AOC/AOC\\_Compatibility\\_SIOM.cfm](http://www.supermicro.com/support/resources/AOC/AOC_Compatibility_SIOM.cfm)

*Please note that this product is sold only as part of an integrated solution with Supermicro server systems*

## 25GbE SFP28 Specifications

- **Ethernet:**
  - 25GbE / 10GbE / 1GbE
  - IEEE 802.3ad, 802.1AX Link Aggregation
  - IEEE 802.1Q, 802.1P VLAN tags and priority
  - IEEE 1588v2
  - Jumbo frames support (9.6KB)
- **Enhanced Features:**
  - Hardware-based reliable transport
  - Collective operations offloads
  - Vector collective operations offloads
  - 64/66 encoding
  - Dynamically Connected transport (DCT)
  - Enhanced Atomic operations
  - Support for MSI/MSI-X mechanisms
- **Storage Offloads:**
  - RAID offload - erasure coding (Reed-Solomon) offload
- **Overlay Networks:**
  - Stateless offloads for overlay networks and tunneling protocols
  - Hardware offload of encapsulation of NVGRE and VXLAN overlay networks
- **Hardware-based I/O Virtualization:**
  - Single Root IOV
  - Multi-function per port
  - Multiple queues per virtual machine
  - VMware NetQueue support
- **Virtualization:**
  - SR-IOV: Up to 256 Virtual Functions
  - SR-IOV: Up to 16 Physical Functions per port

For the most current product information, visit:

[www.supermicro.com](http://www.supermicro.com)

## 25GbE SFP28 Specifications *continued...*

- **CPU Offloads:**
  - RDMA over Converged Ethernet (RoCE)
  - TCP/UDP/IP stateless offload
  - LSO, LRO, checksum offload
  - RSS (can be done on encapsulated packet), TSS, HDS, VLAN insertion/stripping, Receive flow steering
  - Intelligent interrupt coalescence
- **Management Features:**
  - Remote boot over iSCSI
  - PXE and UEFI
- **OS Support:**
  - RHEL/CentOS
  - Windows
  - FreeBSD
  - VMware

## 10GbE RJ45 Specifications

- **I/O Features:**
  - MXI-X Support
  - Intel Flow Director
  - Low Latency
  - Multiple Queues – 64 Tx and Rx per Port
  - Tx/Rx IP, SCTP, TCP, and UDP Checksum Offloading (IPv4, IPv6) Capabilities
  - Tx TCP Segmentation Offload (IPv4, IPv6)
- **Network Features:**
  - Jumbo frames up to 15.5KB
  - IEEE 802.3az Energy Efficient Ethernet (EEE)
- **Virtualization Features:**
  - Multi-mode I/O Virtualization Operations
  - VXLAN Stateless Offloads
  - NVGRE Stateless Offloads
  - Virtual Machine Device Queues (VMDq)
  - 64 Transmit (Tx) and Receive (Rx) Queue Pairs Per Port
  - FPP – 64 VFs Per Port
  - Support for PCI-SIG SR-IOV Specification
  - IEEE 802.1Q VLAN Support
- **Management Features:**
  - Preboot eXecution Environment (PXE) support
  - iSCSI Remote Boot Support and FCoE
  - NC-SI for remote management
- **OS Support:**
  - Linux RHEL, Linux SLES
  - Windows
  - FreeBSD
  - VMware

### Available SKUs

SKUs	Part Number	Description
AOC-MH25G-m2S2T	AOC-MH25G-m2S2T	2-port 25 Gigabit & 2-port 10 Gigabit Ethernet Adapter
	BKT-0112L	Swappable bracket for 2U+ chassis
AOC-MH25G-m2S2TM	AOC-MH25G-m2S2TM	2-port 25 Gigabit & 2-port 10 Gigabit Ethernet Adapter
	BKT-0113L	Internal bracket

### Similar Products

Product Part Number	Form Factor	Protocols	Connector Type	Total Ports	Controller
AOC-MGP-i2	SIOM	1GbE	RJ45	2	Intel® i350
AOC-MGP-i4	SIOM	1GbE	RJ45	4	Intel® i350
AOC-MTGN-i2S	SIOM	10GbE	SFP+	2	Intel® 82599
AOC-MTG-i4S	SIOM	10GbE	SFP+	4	Intel® XL710
AOC-MTG-i2T	SIOM	10GbE	RJ45	2	Intel® X550
AOC-MTG-i4T	SIOM	10GbE	RJ45	4	Intel® X550
AOC-MH25G-b2S2G	SIOM	25GbE	SFP28	2	Broadcom® BCM57414
		1GbE	RJ45	2	Intel® i350
AOC-MHIBF-m2Q2G	SIOM	InfiniBand FDR	QSFP	2	Mellanox® ConnectX-3 Pro
		GBE	RJ45	2	Intel® i350
AOC-MHIBF-m1Q2G	SIOM	InfiniBand FDR	QSFP	1	Mellanox® ConnectX-3 Pro
		GBE	RJ45	2	Intel® i350
AOC-MHFI-i1C	SIOM	Omni-Path	QSFP28	1	Intel® OP HFI ASIC

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