# AOC-S25G-B2S

The Supermicro AOC-S25G-b2S is one of the most feature rich and versatile 25GbE controllers in the market. Based on the Broadcom® BCM57414 chipset with features such as VXLAN, NVGRE and RoCE, it is backward compatible with 10GbE networks and is the most cost effective upgrade from 10GbE to 25GbE in data center or cloud deployments. The unique features including TruFlow and NPAR (NIC Partitioning) technologies provide flexible connectivity for different networking requirements. Supermicro® Asset Management and thermal detection give an extra layer of controller health management and provide peace of mind to customers. The Supermicro AOC-S25G-b2S 25GbE controller is an excellent choice to enhance network connectivity in data centers and enterprise environments.

Key Features:
- **Dual SFP28 Connectors**
- **Low-Profile, Short Length Standard Form Factor**
- **PCI-E 3.0 x8 interface**
- **Asset Management Features with thermal sensor**
- **Broadcom Dual-Port 25 Gbps PCI Express Gen3 Ethernet Controller**
- **Data Center Bridging (DCB)**
- **IEEE1588 Time Sync**
- **TruFlow**
- **NPAR**
- **Low Latency RDMA over Converged Ethernet (RoCE v1 and v2)**
- **VXLAN and NVGRE**
- **NetQueue, VMQueue, and Multiqueue**
- **PCI-SIG SR-IOV compliant**
- **Jumbo Frames support up to 9600-Byte**
- **NC-SI for IPMI support**
- **RoHS compliant 6/6**
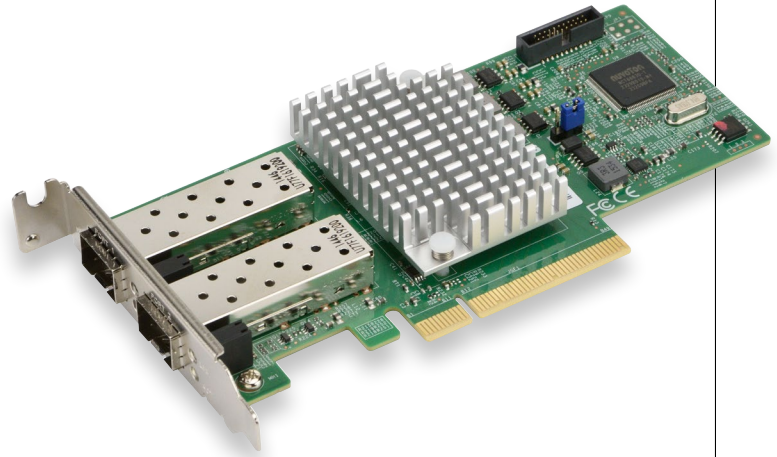
Specifications

General:
- Broadcom BCM57414 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: 5.2W

Host Interface:
- PCI-E v3.0 (8GT/s)
- MCTP over SMBus
- Function Level Reset (FLR) support
- Message Signal Interrupt (MSI-X)

Networking features:
- Jumbo frames (up to 9600-Byte)
- 802.3x flow control
- Link Aggregation (802.3ad)
- Virtual LANs- 802.1q VLAN tagging
- Configurable Flow Acceleration
- IEEE 1588 and Time Sync

Stateless Offload Features:
- TCP, UDP, IPv4, IPv6 checksum offload
- Large Send Offload
- Receive Segment Coalescing
- TCP segmentation Offload
- Large Receive Offload
- Receive Side Scaling (RSS)
- Transmit Side Scaling (TSS)

NIC Partitioning (NPAR):
- 16 Physical Functions
- QoS per partition
- Partitioning control via sideband communication
- Up to 64 MAC/VLAN filter per partition
- Per partition statistics support
- Stateless offloads configuration per partition
- VEB/VEPA support

RDMA over Converged Network
- RDMA over Converged Network v1 and RDMA over Converged Network v2
- Data Center Bridging with RDMA over Converged Network

Virtualization Features:
- NetQueue, VMQueue, and Multiqueue
- Support for 128 Virtual Functions
- VXLAN
- NVGRE
- Geneve
- Edge Virtual Bridging (EVB)

Flow Processing:
- Exact/Wildcard Match Flow Lookup
- VLAN insertion/deletion
- NAT/NAPT
- Mirroring

Data Center Bridging:
- Priority-based flow control (PFC; IEEE 802.1Qbb)
- Enhanced transmission selection (ETS; IEEE802.1Qau)
- Quantized congestion Notification (QCN; IEEE802.1Qau)
- Data Center Bridging Capability eXchange (DCBX; IEEE802.1Qaz)
- 8 traffic classes per port; fully DCB compliant per 802.1Qbb

Manageability:
- Network Controller Sideband Interface (NC-SI)
- PXE v2.1 remote boot
- Asset Management with Thermal Sensors

Power Savings:
- ACPI compliant power management
- PCI Express Active State Power Management (ASPM)
- Ultra low-power mode

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: 14.224cm x 6.89cm (5.6in x 2.71in) (LxW)
- Height of end brackets: standard – 12cm (4.725in), low-profile – 8cm (3.15in)

Weight:
- 90.5g (0.2lb)

Supported Platforms

- Supermicro motherboards with minimum PCI-E x8 slot
- Supermicro server systems with low-profile or full-height PCI-E x8 expansion slot
- NC-SI requires motherboards and system with compatible connector