



**Embedded  
PCIe 5.0 x16 slot  
4 Independent Displays**

**Key Features**

- 13th/12th Generation Intel® Core™ i9/i7/i5/i3/Pentium/Celeron Processor, Single Socket LGA-1700 supported, CPU TDP supports Up to 65W TDP
- Up to 64GB Unbuffered non-ECC SODIMM, DDR4-3200MHz, in 2 SODIMM slots
- 1 PCIe 5.0 x16 slot (16/NA or 8/8)
- 1 M.2 M-Key 2280 (PCIe 4.0 x4)
- 1 M.2 E-Key 2230 (PCIe 3.0 x1/USB)
- Single 1 Gigabit LAN with Intel® Ethernet i210-AT LAN controller
- Single 2.5 Gigabit LAN with Intel® Ethernet i225LM LAN controller [AMT/vPro]
- Intel® Q670E Controller for 5 SATA3 (1 header, 4 via Oculink) ports; RAID 0,1,5,10
- 4 Independent Displays (2 DP ports, 1 HDMI 2.0b port, 1 HDMI 1.4a port, LVDS)
- Supports 12V DC power input
- Onboard TPM2.0

**Optimized Servers**

[SYS-E300-13AD \(/de/products/system/iot/1u/sys-e300-13ad\)](#) [SYS-521AD-TN2 \(/de/products/system/iot/mini-tower/sys-521ad-tn2\)](#)

**Specifications**

<b>Product SKUs</b> MBD-X13SAV-LVDS
<b>Physical Stats</b> <b>Form Factor</b> Mini-ITX <b>Dimension</b> 6.7" x 6.7" (17.02cm x 17.02cm)
<b>Processor</b> <b>CPU</b> 13th/12th Generation Intel Core i9/Core i7/Core i5/Core i3/Pentium/Celeron Processor Single Socket LGA-1700 supported <b>Core</b> Up to 24 cores
<b>System Memory</b> <b>Memory Capacity</b> 2 DIMM slots Up to 64GB Unbuffered non-ECC SODIMM, DDR4-3200MHz <b>Memory Type</b> 3200/2933/2666 MT/s non-ECC DDR4 SODIMM Unbuffered <b>DIMM Sizes</b> 4GB, 8GB, 16GB, 32GB <b>Memory Voltage</b> 1.2V
<b>On-Board Devices</b> <b>Chipset</b> Intel Q670E <b>SATA</b> Intel Q670E controller for 5 SATA3 (6 Gbps) ports; RAID 0,1,5,10 <b>Audio</b> ALC 888S HD Audio <b>Graphics</b> 1 Intel® UHD Graphics port(s) 4 Independent Displays thru HDMI 2.0b/HDMI1.4/DP/LVDS <b>Network Controllers</b> Single LAN with Intel® Ethernet i225LM Single LAN with Intel® Ethernet Controller i210-AT
<b>Input / Output</b> <b>SATA</b> 5 SATA3 (6Gbps) port(s) (1 header, 4 via Oculink) <b>USB</b> 2 USB 2 port(s) (2 via header) 4 USB 3.2 Gen2 port(s) (4 rear type A) 2 USB 3.2 Gen1 port(s) (2 via header) <b>Video Output</b> 1 HDMI 2.0b port(s), 2 DP (DisplayPort) port(s), 1 HDMI port(s), 1 LVDS port(s) <b>Serial Port</b> 1 COM Port(s) (1 header) <b>TPM</b> TPM Header & Chip both

<b>Expansion Slots</b> <b>PCIe</b> 1 PCIe 5.0 x16 slots (16/NA or 8/8) <b>M.2</b> M.2 Interface: 1 PCIe 4.0 x4; 1 CNV/PCIe 3.0 x1/USB2 Form Factor: 2280, 2230 Key: M-Key, E-Key
<b>System BIOS</b> <b>BIOS Type</b> AMI UEFI <b>BIOS Features</b> ACPI 6.1 SMBIOS 3.0 or later PCI FW 3.0 UEFI 2.7 RTC (Real Time Clock) Wakeup
<b>Management</b> <b>System Management Software</b> Wake-on-LAN, Watchdog <b>Power Configurations</b> Power-on mode for AC power recovery, ACPI Power Management, ATX Power connector, CPU thermal trip support for processor protection, +12V DC Power Input
<b>Security</b> <b>Hardware</b> Trusted Platform Module (TPM) 2.0 <b>PC Health Monitoring</b> <b>Voltage</b> VBAT, System temperature, System level control, PCH temperature, HT, CPU temperature, Chipset Voltage, 3-fan status, +3.3V, +1.8V, Monitors CPU Core Voltages <b>LED</b> Power LED <b>Temperature</b> Thermal Control for 3 Fan Connectors <b>FAN</b> 3x 4-pin fan headers (up to 3 fans) System level control PWM fan speed control Fan speed control 3 fans with tachometer monitoring
<b>Other Features</b> WOL, System level control, RoHS, M.2 NGFF connector, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12v DC power connector, 12V DC or ATX Power Source
<b>Operating Environment</b> <b>Operating Temperature Range</b> 0°C - 60°C (32°F - 140°F) <b>Non-Operating Temperature Range</b> -40°C - 85°C (-40°F - 185°F) <b>Operating Relative Humidity Range</b> 10% - 85% (non-condensing) <b>Non Operating Relative Humidity Range</b> 10% - 95% (non-condensing)

## Parts List

### Standard Parts (Bulk Package)

I/O Cables		
Part Number	CBL-PWEX-1066	CBL-0044L • <a href="#">eStore</a> ( <a href="https://store.supermicro.com/supermicro-sata-flat-straight-straight-57-5cm-cable-cbl-0044l.html">https://store.supermicro.com/supermicro-sata-flat-straight-straight-57-5cm-cable-cbl-0044l.html</a> ).
Qty	1	1
Description	4-pin ATX Power Signal Cable	57.5CM SATA FLAT S-S PBF

I/O Shield	
Part Number	MCP-260-00166-0N
Qty	1
Description	Standard I/O Shield

### Standard Parts (Retail Package)

I/O Cables			
Part Number	CBL-PWEX-1066	CBL-SAST-0933 • <a href="#">eStore</a> ( <a href="https://store.supermicro.com/supermicro-50cm-oculink-to-4-sata-cable-cbl-sast-0933.html">https://store.supermicro.com/supermicro-50cm-oculink-to-4-sata-cable-cbl-sast-0933.html</a> ).	CBL-0044L • <a href="#">eStore</a> ( <a href="https://store.supermicro.com/supermicro-sata-flat-straight-straight-57-5cm-cable-cbl-0044l.html">https://store.supermicro.com/supermicro-sata-flat-straight-straight-57-5cm-cable-cbl-0044l.html</a> ).
Qty	1	1	1
Description	4-pin ATX Power Signal Cable	OcuLink v 1.0 to 4x SATA 7-pin,INT,50CM	57.5CM SATA FLAT S-S PBF

I/O Shield	
Part Number	MCP-260-00166-0N
Qty	1
Description	Standard I/O Shield

QRG	
Part Number	MNL-2439-QRG
Qty	1
Description	Motherboard Quick Reference Guide

### Optional Parts

Active Heatsink		
Part Number	SNK-P0085A4	SNK-P0092AP4
Qty	-	-
Description	1U Active CPU Heat Sink for Intel Socket LGA1700 Platform	2U Active CPU Heat Sink for Intel Socket LGA1700 Platform

I/O Cables		
Part Number	CBL-CUSB-0621-1	CBL-OTHR-1061-15
Qty	1	1
Description	Dual USB 3.0 (F) Type A Cable 70cm	Serial Port Cable 15cm

I/O Shield	
Part Number	MCP-260-00167-0B
Qty	-
Description	1U I/O Shield For E300

Riser card	
Part Number	RSC-S-6G5
Qty	-
Description	1U LHS Standard Riser card with one PCIe 5.0 X16 slot.,H

TPM security module	
Part Number	AOM-TPM-9670V-C-O
Qty	1
Description	SPI capable TPM 2.0 with Infineon 9670 controller with vertical form factor

Global SKU ([/de/products/SMC\\_global\\_skus](/de/products/SMC_global_skus))