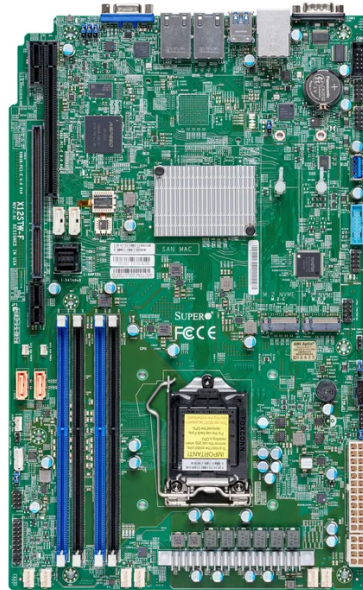


X12STW-F



WIO

Key Features

1. Intel® Xeon® E-2300 Processor, 10th Generation Intel® Pentium® Processor, Single Socket LGA-1200 (Socket H5) supported, CPU TDP supports Up to 95W TDP
2. Intel® C256
3. Up to 128GB Unbuffered ECC UDIMM, DDR4-3200MHz
4. 1 PCI-E 4.0 x16 Left Riser Slot
1 PCI-E 3.0 x4 (in x8, Right Riser slot)
5. **M.2 Interface:** 1 PCI-E 4.0 x4 and 1 PCI-E 3.0 x4
M.2 Form Factor: 2280/22110
M.2 Key: M-Key Double Height Connector
6. Dual LAN with Intel® i210 Gigabit Ethernet Controller
7. Intel® C256 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10
8. 1 VGA port
9. 4 USB 3.2 Gen1 ports (2 rear + 2 via headers)
1 USB 3.2 Gen2 port (1 Type A)
6 USB 2.0 ports (2 rear + 4 via headers)

Specifications

Expansion Slots

PCI-E	<ul style="list-style-type: none"> 1 PCI-E 4.0 x16 Left Riser Slot, 1 PCI-E 3.0 x4 (in x8 slot)
M.2	<ul style="list-style-type: none"> M.2 Interface: 1 PCI-E 4.0 x4; 1 PCI-E 3.0 x4 Form Factor: 2280/22110 Key: M-Key Double Height Connector

System BIOS

BIOS Type	<ul style="list-style-type: none"> 256MB UEFI
BIOS Features	<ul style="list-style-type: none"> ACPI 6.0 SMBIOS 3.3 Plug and Play (PnP) RTC (Real Time Clock) Wakeup UEFI 2.7 USB Keyboard support PCI 3.0

Management

Software	<ul style="list-style-type: none"> SuperDoctor® 5, NMI, SUM, SPM, Intel® Node Manager, SSM, IPMI2.0, Watchdog
System Management Software	<ul style="list-style-type: none"> IPMI (Intelligent Platform Management Interface) v1.5 / 2.0 with KVM support
Power Configurations	<ul style="list-style-type: none"> ACPI Power Management

PC Health Monitoring

Voltage	<ul style="list-style-type: none"> VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6 -fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages
LED	<ul style="list-style-type: none"> UID/Remote UID CPU / System Overheat LED
Temperature	<ul style="list-style-type: none"> Monitoring for CPU and chassis environment CPU thermal trip support Thermal Monitor 2 (TM2) support PECI
FAN	<ul style="list-style-type: none"> 6x 4-pin fan headers (up to 6 fans) Thermal control tachometer fan connectors Fan speed control 6 fans with tachometer status monitoring Overheat LED indication

Product SKUs

MBD-X12STW-F	<ul style="list-style-type: none"> ▪ X12STW-F
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Physical Stats

Form Factor	<ul style="list-style-type: none"> ▪ Proprietary WIO
Dimension	<ul style="list-style-type: none"> ▪ 8" x 13" (20.32cm x 33.02cm)

Processor

CPU	<ul style="list-style-type: none"> ▪ 10th Generation Intel® Pentium® Processor, Intel® Xeon® E-2300 Processor ▪ Single Socket LGA-1200 (Socket H5) supported, CPU TDP supports Up to 95W TDP
Core	<ul style="list-style-type: none"> ▪ Up to 8 cores, 16 threads

System Memory

Memory Capacity	<ul style="list-style-type: none"> ▪ 4 DIMM slots ▪ Up to 128GB ECC UDIMM, DDR4-3200MHz
Memory Type	<ul style="list-style-type: none"> ▪ 3200/2933/2666MHz SDRAM
DIMM Sizes	<ul style="list-style-type: none"> ▪ 4GB, 8GB, 16GB, 32GB
Memory Voltage	<ul style="list-style-type: none"> ▪ 1.2V
Error Detection	<ul style="list-style-type: none"> ▪ Corrects single-bit errors

On-Board Devices

Chipset	<ul style="list-style-type: none"> ▪ Intel® C256
SATA	<ul style="list-style-type: none"> ▪ Intel® C256 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10
IPMI	<ul style="list-style-type: none"> ▪ ASPEED AST2600 BMC
Graphics	<ul style="list-style-type: none"> ▪ ASPEED AST2600 BMC
Network Controllers	<ul style="list-style-type: none"> ▪ Dual LAN with Intel® Ethernet Controller I210-AT

Input / Output

SATA	<ul style="list-style-type: none"> ▪ 8 SATA3 (6Gbps) port(s)
LAN	<ul style="list-style-type: none"> ▪ 2 RJ45 Gigabit Ethernet LAN ports
USB	<ul style="list-style-type: none"> ▪ 6 USB 2.0 port(s) (4 via header; 2 rear) ▪ 4 USB 3.2 Gen1 port(s) (2 via header; 2 rear) ▪ 1 USB 3.2 Gen2 port(s) (1 rear type A)
Video Output	<ul style="list-style-type: none"> ▪ 1 VGA port(s)
Serial Port	<ul style="list-style-type: none"> ▪ 2 COM Port(s) (1 header; 1 rear)
DOM	<ul style="list-style-type: none"> ▪ 2 SATA <u>DOM</u> (Disk on Module) power connector support
TPM	<ul style="list-style-type: none"> ▪ 1 TPM Header

Other Features

- WOL, UID, Node Manager Support, M.2 NGFF connector, CPU thermal trip support for processor protection, Control of power-on for recovery from AC power loss, Chassis intrusion header, Chassis intrusion detection, ACPI power management

Operating Environment

Operating Temperature Range	<ul style="list-style-type: none"> ▪ 0°C - 50°C (32°F - 122°F)
Non-Operating Temperature Range	<ul style="list-style-type: none"> ▪ -40°C - 70°C (-40°F - 158°F)
Operating Relative Humidity Range	<ul style="list-style-type: none"> ▪ 8% - 90% (non-condensing)
Non Operating Relative Humidity Range	<ul style="list-style-type: none"> ▪ 5% - 95% (non-condensing)

Parts List

Parts List (Bulk Package)			
Name	Part Number	Qty	Description
Motherboard	MBD-X12STW-F	1	X12STW-F Motherboard
I/O Cables	CBL-0044L • eStore	2	57.5CM SATA FLAT S-S PBF

Parts List (Retail Package)			
Name	Part Number	Qty	Description
Motherboard	MBD-X12STW-F	1	X12STW-F Motherboard
I/O Cables	CBL-0044L • eStore	4	57.5CM SATA FLAT S-S PBF
QRG	MNL-2354-QRG	1	Motherboard Quick Reference Guide

Optional Parts List			
Name	Part Number	Qty	Description
TPM security module	AOM-TPM-9671H	1	SPI capable TPM 1.2 with Infineon 9670 controller with horizontal form factor SPI capable TPM 2.0 with Infineon 9670 controller with horizontal form factor SPI capable TPM 1.2 with Infineon 9670 controller with vertical form factor SPI capable TPM 2.0 with Infineon 9670 controller with vertical form factor
	AOM-TPM-9670H	1	
	AOM-TPM-9671V	1	
	AOM-TPM-9670V	1	

Chassis (Optimized for X12STW-F)

Embedded Compact	1U	2U	3U	Mid/Mini-Tower	4U/Tower
	SCLA15TQC-563W SC815TQC4-R504WB3 Heatsink:SNK-P0049P Heatsink:SNK-P0049P				

● = Most optimized Chassis for SuperServer Configuration

Blue color = Compatible

Green color = Global SKU & Compatible

Red dot & green color = Optimized + Global SKU