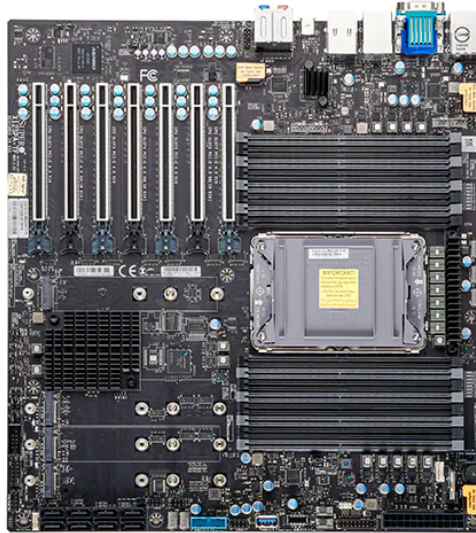# X12SPA-TF

Workstation

Key Features

3rd Gen Intel® Xeon® Scalable processors, Intel® Xeon® W-3300 Processor

Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports Up to 270W TDP

Intel® C621A

Single LAN with Intel® Ethernet Controller I210-AT

Single LAN with Marvell AQC113

Single LAN with Realtek RTL8211F PHY (dedicated IPMI)

Up to 4TB 3DS ECC RDIMM, DDR4-3200MHz; Up to 4TB 3DS ECC LRDIMM, DDR4-3200MHz

Up to 4TB Intel® Optane™ Persistent Memory, DDR4-3200MHz, in 16 DIMM slots

4 PCIe 4.0 x16,

3 PCIe 4.0 x8 (in x16 slot)

M.2 Interface: 4 PCIe 4.0 x4

M.2 Form Factor: 2260/2280/22110

M.2 Key: M-Key

M.2 support to RAID 0,1, 5, 10, VROC key is required for RAID.

Intel® C621A controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10

1 VGA port,

VGA connector is dedicated for IPMI.

Optimized Servers

SYS-540A-TR

Specifications

Product SKUs
MBD-X12SPA-TF

Physical Stats
Form Factor
E-ATX
Dimension
13" x 12" (33.02cm x 30.48cm)

Processor
CPU
3rd Gen Intel® Xeon® Scalable processors, Intel® Xeon® W-3300 Processor Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports Up to 270W TDP
Core
Up to 40 cores

System Memory
Memory Capacity
16 DIMM slots
Up to 4TB Intel® Optane™ Persistent Memory 200 Series, DDR4-3200MHz
Up to 4TB 3DS ECC LRDIMM, DDR4-3200MHz; Up to 4TB 3DS ECC RDIMM, DDR4-3200MHz
Memory Type
ECC DDR4 LRDIMM (3DS), RDIMM (3DS)
DIMM Sizes
4GB, 8GB, 16GB, 32GB, 64GB, 128GB
Memory Voltage
1.2V

On-Board Devices
Chipset
Intel® C621A
SATA
Intel® C621A controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10
IPMI
ASPEED AST2500
Audio
ALC 888S HD Audio
Graphics
1 ASPEED AST2500 BMC port(s)
VGA connector is dedicated for IPMI.
Network Controllers
Single LAN with Intel® Ethernet Controller I210-AT
Single LAN with Realtek RTL8211F PHY (dedicated IPMI)
Single LAN with Marvell AQC113

Input / Output
LAN
1 RJ45 Dedicated IPMI LAN port
1 RJ45 Gigabit Ethernet LAN ports
1 RJ45 10GBase-T ports
USB
4 USB 2.0 port(s) (2 rear; 2 via header)
6 USB 3.2 Gen1 port(s) (2 via header; 4 rear)
1 USB 3.2 Gen2x2 port(s) (1 rear type C)
2 USB 3.2 Gen2 port(s) (1 type A; 1 type C)
Video Output
1 VGA port(s)
Serial Port
2 COM Port(s) (1 header; 1 rear)
DOM
1 SATA DOM power connector (Disk on Module) port
TPM
1 TPM Header

Expansion Slots
PCIe
4 PCIe 4.0 x16,
3 PCIe 4.0 x8 (in x16 slot), PCIe x16 Slot#1 shares with M.2, Slot#2 shares with Slot#3 (NA/16,8/8), Slot#4 shares with Slot#5 (NA/16,8/8), Slot#6 shares with Slot#7 (NA/16,8/8)
M.2
M.2 Interface: 4 PCIe 4.0 x4
Form Factor: 2260/2280/22110
Key: M-Key

System BIOS
BIOS Type
256MB SPI Flash with AMI BIOS
BIOS Features
ACPI 3.0 / 4.0
SMBIOS 2.7
PCI FW 3.0
RTC (Real Time Clock) Wakeup

Management
Software
Redfish API, Supermicro Server Manager (SSM), Supermicro Power Manager (SPM), Supermicro Update Manager (SUM), SuperDoctor® 5, Super Diagnostics Offline, KVM with dedicated LAN , IPMI 2.0
System Management Software
SuperDoctor 5, IPMI (Intelligent Platform Management Interface) v1.5 / 2.0 with KVM support
Power Configurations
Power-on mode for AC power recovery, ACPI Power Management, CPU thermal trip support for processor protection, Main Switch Override Mechanism

Security
Hardware
Trusted Platform Module (TPM) 2.0

PC Health Monitoring
Voltage
VBAT, Memory, HT, 3.3V standby, +5V standby, +5V, +3.3V, +12V, +1.8V, 10 - fan status
LED
Suspend static indicator LED
CPU / System Overheat LED
Temperature
Monitoring for CPU and chassis environment
CPU thermal trip support
PECI
FAN
10x 4-pin fan headers (up to 10 fans)
PWM fan speed control
Fan speed control
Dual Cooling Zone
Status monitoring for speed control
Overheat LED indication

Operating Environment
Operating Temperature Range
0°C - 50°C (32°F - 122°F)
Non-Operating Temperature Range
-20°C - 60°C (-4°F - 140°F)

Parts List

Standard Parts (Bulk Package)

CPU carrier

Part Number	SKT-1205L-P4IC-FXC
Qty	1
Description	-

CPU-GPU power connector adapter

Part Number	CBL-PWEX-0663 • *e*Store
Qty	1
Description	-

IO shield

Part Number	MCP-260-00148-0N
Qty	1
Description	-

SATA Cable(IO Cable)

Part Number	CBL-0044L • *e*Store
Qty	2
Description	-

Standard Parts (Retail Package)

CPU carrier

Part Number	SKT-1205L-P4IC-FXC
Qty	1
Description	-

CPU-GPU power connector adapter

Part Number	CBL-PWEX-0663 • *e*Store
Qty	1
Description	-

IO shield

Part Number	MCP-260-00148-0N
Qty	1
Description	-

SATA Cable(IO Cable)

Part Number	CBL-0044L • *e*Store
Qty	6
Description	-

X12SPA-TF QRG

Part Number	MNL-2273-QRG
Qty	1
Description	-

Optional Parts

TPM security module (optional, not included)

Part Number	AOM-TPM-9670V	AOM-TPM-9671V
Qty	1	1
Description	-	-