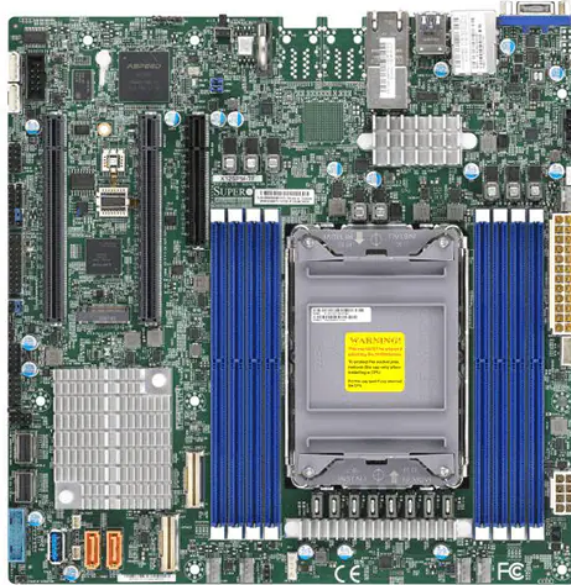


X12SPM-TF



Embedded Ready Dual 10GbE

Key Features

1. 3rd Gen Intel® Xeon® Scalable processors, Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports Up to 270W TDP

2. Intel® C621A

3. Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; Up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz
Up to 2TB Intel® Optane™ Persistent Memory 200 Series, in 8 DIMM slots

4. 1 PCI-E 4.0 x8,
2 PCI-E 4.0 x16,
4 PCI-E 4.0 NVMe x4 Internal Port(s)
M.2 Interface: 1 SATA/PCI-E 3.0 x4
M.2 Form Factor: 2280, 22110
M.2 Key: M-Key

5. 4x NVMe port PCI-E 4.0 x4 via SlimSAS connector

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

7. Dual LAN with 10GBase-T with Intel® X550

8. Supports 12V DC power input

9. 5 USB 3.2 Gen1 (2 rear, 1 Type-A, 2 via header), 6 USB 2.0 (2 rear, 4 via headers)

Specifications

Expansion Slots

PCI-E	<ul style="list-style-type: none"> 2 PCI-E 4.0 x16, 1 PCI-E 4.0 x8
M.2	<ul style="list-style-type: none"> M.2 Interface: 1 SATA/PCI-E 3.0 x4 Form Factor: 2280, 22110 Key: M-Key

System BIOS

BIOS Type	<ul style="list-style-type: none"> AMI UEFI
BIOS Features	<ul style="list-style-type: none"> ACPI 6.0 RTC (Real Time Clock) Wakeup SMBIOS 3.0 or later

Management

Software	<ul style="list-style-type: none"> SuperDoctor® 5, NMI, <u>SUM</u>, KVM with dedicated LAN, <u>SPM</u>, Intel® Node Manager, <u>IPMI2.0</u>, Watchdog
Power Configurations	<ul style="list-style-type: none"> Power-on mode for AC power recovery, ACPI Power Management

PC Health Monitoring

Voltage	<ul style="list-style-type: none"> VBAT, Supports system management utility, Monitors CPU voltages, Chassis intrusion header, 5 -fan status, 3.3V standby, +5V standby, +5V, +3.3V, +12V, +1.8V
LED	<ul style="list-style-type: none"> UID/Remote UID Suspend static indicator LED CPU / System Overheat LED
Temperature	<ul style="list-style-type: none"> CPU thermal trip support PECI
FAN	<ul style="list-style-type: none"> 5x 4-pin fan headers (up to 5 fans) System level control PWM fan speed control 5 fans with tachometer status monitoring Pulse Width Modulated (PWM) fan connectors
Other Features	<ul style="list-style-type: none"> WOL, UID, RoHS, M.2 NGFF connector, CPU thermal trip support for processor protection, Control of power-on for recovery from AC power loss, ACPI power management

Operating Environment

Operating Temperature Range	<ul style="list-style-type: none"> 0°C - 60°C (32°F - 140°F)
Non-Operating Temperature Range	<ul style="list-style-type: none"> -20°C - 60°C (-4°F - 140°F)

Product SKUs		Operating Relative Humidity Range	▪ 10% - 85% (non-condensing)
MBD-X12SPM-TF	▪ X12SPM-TF	Non Operating Relative Humidity Range	▪ 10% - 95% (non-condensing)
Physical Stats			
Form Factor	▪ microATX		
Dimension	▪ 9.6" x 9.6" (24.38cm x 24.38cm)		
Processor			
CPU	<ul style="list-style-type: none"> ▪ 3rd Gen Intel® Xeon® Scalable processors ▪ Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports Up to 270W TDP 		
Core	▪ Up to 40 cores		
System Memory			
Memory Capacity	<ul style="list-style-type: none"> ▪ 8 DIMM slots ▪ Up to 2TB Intel® Optane™ Persistent Memory 200 Series ▪ Up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz; Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz 		
Memory Type	▪ ECC , DDR4 LRDIMM (3DS), RDIMM (3DS)		
DIMM Sizes	<ul style="list-style-type: none"> ▪ LRDIMM 3DS: 128GB, 256GB ▪ LRDIMM: 64GB, 128GB ▪ RDIMM: 8GB, 16GB, 32GB, 64GB 		
Memory Voltage	▪ 1.2V		
Error Detection	▪ Corrects single-bit errors		
On-Board Devices			
Chipset	▪ Intel® C621A		
SATA	▪ Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10		
IPMI	▪ ASPEED AST2600 BMC		
Graphics	▪ ASPEED AST2600 BMC		
Network Controllers	▪ Dual LAN with 10GBase-T with Intel® X550		
Input / Output			
SATA	▪ 10 SATA3 (6Gbps) port(s)		
LAN	▪ 2 RJ45 10GBase-T ports		
USB	<ul style="list-style-type: none"> ▪ 6 USB 2.0 port(s) (4 via header; 2 rear) ▪ 5 USB 3.2 Gen1 port(s) (2 via header; 2 rear; 1 type A) 		
Video Output	▪ 1 VGA port(s)		
Serial Port	▪ 1 COM Port(s) (1 header)		
DOM	▪ 2 SATA <u>DOM</u> (Disk on Module) power connector support		
TPM	▪ 1 TPM Header		

Parts List

Parts List (Bulk Package)			
Name	Part Number	Qty	Description
Motherboard	MBD-X12SPM-TF	1	X12SPM-TF Motherboard
CPU carrier	SKT-1205L-P4IC-FXC	1	CPU carrier for 3rd Gen Intel Xeon Scalable Processors
I/O Cables	CBL-0044L • eStore	2	57.5 cm SATA FLAT S-S PBF
I/O Shield	MCP-260-00130-0N	1	STD I/O Shield for X12SPM-TF with EMI Gasket

Parts List (Retail Package)			
Name	Part Number	Qty	Description
Motherboard	MBD-X12SPM-TF	1	X12SPM-TF Motherboard
CPU carrier	SKT-1205L-P4IC-FXC	1	CPU carrier for 3rd Gen Intel Xeon Scalable Processors
I/O Cables	CBL-0044L • eStore	2	57.5 cm SATA FLAT S-S PBF
I/O Shield	MCP-260-00130-0N	1	STD I/O Shield for X12SPM-TF with EMI Gasket
QRG	MNL-2271-QRG	1	Motherboard Quick Reference Guide

Optional Parts List			
Name	Part Number	Qty	Description
1U I/O Shield	MCP-260-00131-0N	--	Standard 1U I/O Shield with EMI Gasket
TPM security module	AOM-TPM-9671V	--	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-9670V	--	

Chassis (Optimized for X12SPM-TF)

Embedded Compact	1U	2U	3U	Mid/Mini-Tower	4U/Tower
		SC213LT-600LPB SCLA26E1C4-R609LP SCLA25TQC-R609LP SC825TQC-R802LPB SC825MBTQC-R802LPB Heatsink:SNK-P0078AP4 Heatsink:SNK-P0078AP4 Heatsink:SNK-P0078AP4 Heatsink:SNK-P0078AP4 Heatsink:SNK-P0078AP4			SC842TQC-668B Heatsink:SNK-P0080AP4

● = Most optimized Chassis for SuperServer Configuration

Blue color = Compatible

Green color = Global SKU & Compatible

Red dot & green color = Optimized + Global SKU

