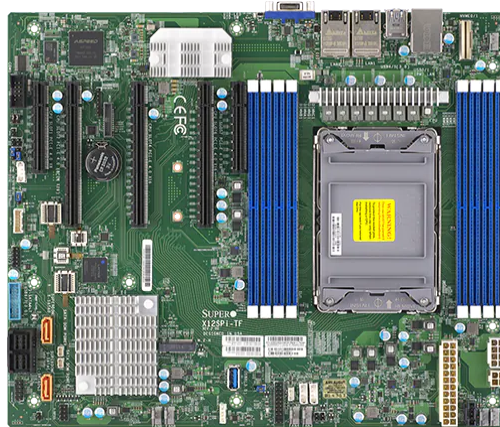# X12SPI-TF

High Performance

Key Features

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

Intel® C621A

Up to 2TB RDIMM, DDR4-3200MHz; Up to 2TB LRDIMM, DDR4-3200MHz

Up to 2TB Intel® Optane™ Persistent Memory 200 Series, in 8 DIMM slots

2 PCIe 4.0 x16,

2 PCIe 4.0 x8,

1 PCIe 4.0 x8 (in x16 slot),

1 PCIe 4.0 NVMe x8 Internal Port(s)

M.2 Interface: 1 SATA/PCIe 3.0 x4

M.2 Form Factor: 2280/22110

M.2 Key: M-Key

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

Dual LAN with 10GBase-T with Intel® X550

Optimized Servers

SSG-520P-ACTR12H
SSG-520P-ACTR12L
SSG-540P-E1CTR36H
SSG-540P-E1CTR36L
SSG-540P-E1CTR45H
SSG-540P-E1CTR45L
SSG-540P-E1CTR60H
SSG-540P-E1CTR60L

Specifications

Product SKUs
MBD-X12SPI-TF

Physical Stats
Form Factor
ATX
Dimension
12.1" x 10" (30.73cm x 25.4cm)

Processor
CPU
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
8 DIMM slots
Up to 2TB Intel® Optane™ Persistent Memory 200 Series
Up to 2TB ECC LRDIMM, DDR4-3200MHz; Up to 2TB ECC RDIMM, DDR4-3200MHz
Memory Type
ECC , DDR4 LRDIMM, RDIMM
DIMM Sizes
8GB, 16GB, 32GB, 64GB, 128GB, 256GB
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
1 ASPEED AST2600 BMC port(s)
Network Controllers
Dual LAN with 10GBase-T with Intel® X550

Input / Output
LAN
2 RJ45 10 Gigabit Ethernet LAN ports
USB
4 USB 2.0 port(s) (2 rear; 2 via header)
5 USB 3.2 Gen1 port(s) (2 via header; 2 rear; 1 type A)
Video Output
1 VGA D-Sub Connector port(s)
Serial Port
1 COM Port(s) (1 header)
DOM
2 SATA DOM (Disk on Module) power connector support
TPM
1 TPM Header

Expansion Slots
PCIe
2 PCIe 4.0 x16,
1 PCIe 4.0 x8 (in x16 slot),
2 PCIe 4.0 x8
M.2
M.2 Interface: 1 SATA/PCIe 3.0 x4
Form Factor: 2280/22110
Key: M-Key

System BIOS
BIOS Type
AMI UEFI
BIOS Features
ACPI 6.2
SMBIOS 3.0 or later
UEFI 2.7

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
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

Security
Hardware
Trusted Platform Module (TPM) 2.0
Silicon Root of Trust (RoT) – NIST 800-193 Compliant
Features
Cryptographically Signed Firmware
Secure Boot
Secure Firmware Updates
Automatic Firmware Recovery
System Lockdown

PC Health Monitoring
Voltage
VBAT, System temperature, Monitors CPU voltages, HT, Chassis intrusion header, 3.3V standby, +5V standby, +5V, +3.3V, +12V, +1.8V, 7-fan status
LED
UID/Remote UID
BMC/IPMI Heartbeat LED
Suspend static indicator LED
CPU / System Overheat LED
Temperature
CPU thermal trip support
PECI
FAN
7x 4-pin fan headers (up to 7 fans)
System level control
PWM fan speed control
Fan speed control
Overheat LED indication
Other Features
UID, RoHS, Dual Cooling Zones, Chassis intrusion detection, ATX Power connector, ACPI power management, RoT, NCSI header

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)
Operating Relative Humidity Range
10% - 85% (non-condensing)
Non Operating Relative Humidity Range
10% - 95% (non-condensing)

Parts List

Standard Parts (Bulk Package)

CPU carrier

Part Number	SKT-1205L-P4IC-FXC
Qty	1
Description	CPU carrier for 3rd Gen Intel Xeon Scalable Processors

I/O Cables

Part Number	CBL-0044L • eStore
Qty	2
Description	57.5 cm SATA FLAT S-S PBF

I/O Shield

Part Number	MCP-260-00042-1N
Qty	1
Description	-

Standard Parts (Retail Package)

CPU carrier

Part Number	SKT-1205L-P4IC-FXC
Qty	1
Description	CPU carrier for 3rd Gen Intel Xeon Scalable Processors

I/O Cables

Part Number	CBL-0044L • *eStore*
Qty	2
Description	57.5 cm SATA FLAT S-S PBF

I/O Shield

Part Number	MCP-260-00042-1N
Qty	1
Description	-

QRG

Part Number	MNL-2225-QRG
Qty	1
Description	-

Optional Parts

TPM security module

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