

X12SPZ-SPLN6F



**Embedded
Quad 1GbE LAN
Dual 25G SFP28**

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 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

2 PCIe 4.0 x16

1 PCIe 4.0 NVMe x8 SlimSAS Internal Port

1 PCIe 4.0 NVMe x4 SlimSAS Internal Port

1 OCuLink Connector (4 SATA/PCIe 3.0 x4)

1 M.2 M-Key 2242/2280 (SATA/PCIe 3.0 x4)

4 USB 3.2 Gen 1 (2 Rear, 2 via Header),

4 USB 2.0 (Headers)

Quad 1G RJ45 with Intel® I350-AM4

Dual 25G SFP28 with Broadcom BCM57414

Supports 12V DC power input

Specifications

Product SKUs**MBD-X12SPZ-SPLN6F****Physical Stats****Form Factor**

Micro-ATX

Dimension

9.6" x 9.6" (24.38cm x 24.38cm)

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 3DS ECC LRDIMM, DDR4-3200MHz; Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz

Memory Type

3200/2933/2666 MT/s ECC , DDR4 LRDIMM (3DS), RDIMM (3DS)

DIMM Sizes

8GB, 16GB, 32GB, 64GB, 128GB, 256GB

Memory Voltage

1.2V

Error Detection

Corrects single-bit errors

Detects double-bit errors (using ECC memory)

On-Board Devices**Chipset**

Intel® C621A

SATA

Intel® C621A controller for 6 SATA3 (6 Gbps) ports

4 SATA ports via OCuLink; RAID 0,1,5,10

IPMI

ASPEED AST2600 BMC

Network Controllers

Quad LAN with 1GbE with Intel® I350-AM4

Dual LAN with Broadcom BCM57414 25G SFP28

Input / Output**LAN**

4 RJ45 Gigabit Ethernet LAN ports

2 SFP28 25 Gigabit Ethernet LAN ports

USB

4 USB 2.0 port(s) (4 via header)

4 USB 3.2 Gen1 port(s) (2 via header; 2 rear)

Video Output

1 VGA port(s)

Serial Port

1 COM Port(s) (1 header)

DOM

1 SuperDOM (Disk on Module) ports

TPM

1 TPM Header & Chip both

Expansion Slots**PCIe**

2 PCIe 4.0 x16

M.2

M.2 Interface: 1 SATA/PCIe 3.0 x4

Form Factor: 2242/2280

Key: M-Key

System BIOS**BIOS Type**

256MB SPI Flash with AMI BIOS

BIOS Features

ACPI 6.2

UEFI 2.8

SMBIOS 2.8

SMBIOS 3.3 or later

Plug and Play (PnP)

PCI FW 3.0

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

ACPI Power Management, ATX Power connector, +12V DC Power Input, M.2 NGFF connector, Node Manager Support, SDDC, System level control, UID, WOL

Security**Hardware**

Trusted Platform Module (TPM) 2.0

PC Health Monitoring**Voltage**

VBAT, Supports system management utility, Monitors CPU voltages, Chassis intrusion header, 6 -fan status, 3.3V standby, +5V standby, +5V, +3.3V, +12V, +1.8V

LED

UID/Remote UID

Power LED

Temperature

CPU thermal trip support

FAN

6x 4-pin fan headers (up to 6 fans)

System level control

PWM fan speed control

Dual Cooling Zone

6 fans with tachometer status monitoring

Other Features

RoHS, Node Manager Support, M.2 NGFF connector, Dual Cooling Zones, CPU thermal trip support for processor protection, Control of power-on for recovery from AC power loss, ACPI power management, 12V DC or ATX Power Source

Operating Environment**Operating Temperature Range**

0°C - 50°C (32°F - 122°F)

Non-Operating Temperature Range

-40°C - 85°C (-40°F - 185°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 Retention Module

Part Number	SKT-1205L-P4IC-FXC
Qty	1
Description	Socket P4 LGA4189 Carrier

I/O Shield

Part Number	MCP-260-00154-0N
Qty	1
Description	Standard I/O Shield for X12SPZ

SATA Cables

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

Standard Parts (Retail Package)

CPU Retention Module

Part Number	SKT-1205L-P4IC-FXC
Qty	1
Description	Socket P4 LGA4189 Carrier

I/O Shield

Part Number	MCP-260-00154-0N
Qty	1
Description	Standard I/O Shield for X12SPZ

QRG

Part Number	MNL-2291-QRG
Qty	1
Description	Motherboard Quick Reference Guide

SATA Cables

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

Optional Parts

1U I/O Shield

Part Number	MCP-260-00155-0N
Qty	--
Description	Standard 1U I/O Shield with EMI Gasket

Active heatsink

Part Number	SNK-P0080AP4 • eStore	SNK-P0078AP4 • eStore
Qty	--	--
Description	4U Active CPU heatsink for X12 Generation Intel Whitley Platform (LGA4189 Socket P4)	2U Active CPU Heatsink for X12 Generation Intel Whitley Platform (LGA4189 Socket P4)

OCuLink to 4x SATA Cable

Part Number	CBL-SAST-0933 • eStore
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Qty --
 Description 50CM OCuLink to 4x SATA
 Cable

OCuLink to U.2 Cable

Part Number CBL-SAST-0956 • [eStore](#)

Qty --
 Description 55CM OCuLink to U.2
 Cable with Molex Power
 Header

Passive heatsink

Part Number SNK-P0077P • [eStore](#)

Qty --
 Description 1U Passive CPU Heatsink
 for X12 Generation Intel
 Whitley Platform (LGA4189
 Socket P4)

TPM security module

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

x4 SlimSAS to U.2 Cable

Part Number CBL-SAST-1240A-85
 Qty --
 Description 40CM Slimline x4 to PCIe
 SFF-8639

x8 SlimSAS to 2x U.2 Cable

Part Number CBL-SAST-0953-1
 Qty --
 Description 55CM Slimline x8 to PCIe
 2x SFF-8639
