

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 PCI-E 4.0 x16

- 1 PCI-E 4.0 NVMe x8 SlimSAS Internal Port 1 PCI-E 4.0 NVMe x4 SlimSAS Internal Port
- 1 OCuLink Connector (4 SATA/PCI-E 3.0 x4) 1 M.2 M-Key 2242/2280 (SATA/PCI-E 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

Product SKUs		Expansion Slots	
MBD-X12SPZ-	■ X12SPZ-SPLN6F	PCI-E	■ 2 PCI-E 4.0
SPLN6F		M.2	■ M.2 Interfa
			Form Factor ■ Key: M-Key
Physical Stats			,
Form Factor	■ Micro-ATX	System BIOS	
Dimension	■ 9.6" x 9.6" (24.38cm x 24.38cm)	BIOS Type	■ 256MB SP
		BIOS Features	■ ACPI 6.2
Processor		2.0010000	■ UEFI 2.8
CPU	 3rd Gen Intel® Xeon® Scalable processors 		SMBIOS 2.SMBIOS 3.
	■ Single Socket LGA-4189 (Socket P+)		■ Plug and F
	supported, CPU TDP supports Up to 270W TDP		■ PCI FW 3.0
Core	■ Up to 40 cores	Management	
		Software	SuperDoct
System Memory			dedicated
Memory	■ 8 DIMM slots		Manager, <u>S</u> Platform M
Capacity	■ Up to 2TB Intel® Optane™ Persistent Memory 200 Series		KVM suppo
	■ Up to 2TB 3DS ECC LRDIMM, DDR4-	System Management	■ IPMI (Intelli
	3200MHz; Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz	Management Software	Interface) \
Memory Type	■ 3200/2933/2666MHz ECC , DDR4	Power	■ ACPI Powe
мешогу туре	LRDIMM (3DS), RDIMM (3DS)	Configurations	connector, NGFF con
DIMM Sizes	■ 8GB, 16GB, 32GB, 64GB, 128GB, 256GB		SDDC, Sys
Memory	■ 1.2V		
Voltage	Compate single hit owers	PC Health Monitorin	g
Error Detection	 Corrects single-bit errors Detects double-bit errors (using ECC 	Voltage	■ VBAT, Supp
	memory)	-	utility, Moni
			intrusion h standby, +
On-Board Devices			+1.8V
Chipset	u Intel® C621A	LED	■ UID/Remo ■ Power LED
SATA	■ Intel® C621A controller for 6 SATA3 (6	Temperature	■ CPU therm
	Gbps) ports 4 SATA ports via OCuLink; RAID 0,1,5,10	FAN	■ 6x4-pin fa
IPMI	■ ASPEED AST2600 BMC	., .,	■ System lev
Network	■ Quad LAN with 1GbE with Intel® l350-AM4		PWM fan sDual Cooli
Controllers	■ Dual LAN with Broadcom BCM57414 25G		■ 6 fans with
	SFP28	Other Features	■ RoHS, Noo
nout / Output			connector, thermal trip
nput / Output			protection,
LAN	 4 RJ45 Gigabit Ethernet LAN ports 2 SFP28 25 Gigabit Ethernet LAN ports 		recovery from
USB	4 USB 2.0 port(s) (4 via header)		Source
	■ 4 USB 3.2 Gen1 port(s) (2 via header; 2		
Val 6 4 4	rear)	Operating Environm	ent
Video Output	1 VGA port(s)	Operating	■ 0°C - 50°C
Serial Port	1 COM Port(s) (1 header) 1 Syman DOM (Diels on Medicle) monte	Temperature	
DOM	1 SuperDOM (Disk on Module) ports	Range	4000 05
TPM	■ 1 TPM Header & Chip both	Non-Operating Temperature	■ -40°C - 85°

Expansion Slots	
-	2 DCL F 4 0 x46
PCI-E M.2	2 PCI-E 4.0 x16M.2 Interface: 1 SATA/PCI-E 3.0 x4
IVI.Z	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)
	■ PCIFW 3.0
Management	
Software	 SuperDoctor® 5, NMI, <u>SUM</u>, KVM with dedicated LAN, <u>SPM</u>, Intel® Node
	Manager, SSM, Watchdog, IPMI (Intelligent
	Platform Management Interface) v2.0 with KVM support
System	■ IPMI (Intelligent Platform Management
Management Software	Interface) v1.5 / 2.0 with KVM support
Power	■ ACPI Power Management, ATX Power
Configurations	connector, +12V DC Power Input, M.2
	NGFF connector, Node Manager Support, SDDC, System level control, UID, WOL
	,,
PC Health Monitoring	
_	■ VBAT Supports system management
Voltage	■ VBAT, Supports system management utility, Monitors CPU voltages, Chassis
_	
_	utility, Monitors CPU voltages, Chassis intrusion header, 6 -fan status, 3.3V
_	utility, Monitors CPU voltages, Chassis intrusion header, 6 -fan status, 3.3V standby, +5V standby, +5V, +3.3V, +12V, +1.8V ■ UID/Remote UID
Voltage	utility, Monitors CPU voltages, Chassis intrusion header, 6 -fan status, 3.3V standby, +5V standby, +5V, +3.3V, +12V, +1.8V ■ UID/Remote UID ■ Power LED
Voltage	utility, Monitors CPU voltages, Chassis intrusion header, 6 -fan status, 3.3V standby, +5V standby, +5V, +3.3V, +12V, +1.8V ■ UID/Remote UID
Voltage LED Temperature	utility, Monitors CPU voltages, Chassis intrusion header, 6 -fan status, 3.3V standby, +5V standby, +5V, +3.3V, +12V, +1.8V ■ UID/Remote UID ■ Power LED ■ CPU thermal trip support ■ 6x4-pin fan headers (up to 6 fans) ■ System level control
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LED Temperature FAN Other Features	utility, Monitors CPU voltages, Chassis intrusion header, 6 -fan status, 3.3V standby, +5V standby, +5V, +3.3V, +12V, +1.8V ■ UID/Remote UID Power LED ■ CPU thermal trip support ■ 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 ■ 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
Voltage LED Temperature FAN Other Features Operating Environment Operating Temperature	utility, Monitors CPU voltages, Chassis intrusion header, 6 -fan status, 3.3V standby, +5V standby, +5V, +3.3V, +12V, +1.8V ■ UID/Remote UID ■ Power LED ■ CPU thermal trip support ■ 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 ■ 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
LED Temperature FAN Other Features Operating Environment Operating Temperature Range	utility, Monitors CPU voltages, Chassis intrusion header, 6 -fan status, 3.3V standby, +5V standby, +5V, +3.3V, +12V, +1.8V ■ UID/Remote UID ■ Power LED ■ CPU thermal trip support ■ 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 ■ 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
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LED Temperature FAN Other Features Operating Environmer Operating Temperature Range Non-Operating Temperature	utility, Monitors CPU voltages, Chassis intrusion header, 6 -fan status, 3.3V standby, +5V standby, +5V, +3.3V, +12V, +1.8V ■ UID/Remote UID ■ Power LED ■ CPU thermal trip support ■ 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 ■ 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

■ 10% - 95% (non-condensing)

Non Operating Relative Humidity Range