

X12STW-TF



WIO

Key Features

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|---|
| 1. Intel® Xeon® E-2300 Processor, 10th Generation Intel® Pentium® Processor, Single Socket LGA-1200 (Socket H5) supported, CPU TDP supports Up to 95W TDP |
| 2. Intel® C256 |
| 3. Up to 128GB Unbuffered ECC UDIMM, DDR4-3200MHz |
| 4. 1 PCI-E 4.0 x16 Left Riser Slot
1 PCI-E 3.0 x4 (in x8, Right Riser slot) |
| 5. M.2 Interface: 1 PCI-E 4.0 x4 and 1 PCI-E 3.0 x4
M.2 Form Factor: 2280/22110
M.2 Key: M-Key Double Height Connector |
| 6. Dual LAN with Intel® X550 10GBase-T Ethernet Controller |
| 7. Intel® C256 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10 |
| 8. 1 VGA port |
| 9. 4 USB 3.2 Gen1 ports (2 rear + 2 via headers)
1 USB 3.2 Gen2 port (1 Type A)
6 USB 2.0 ports (2 rear + 4 via headers) |

Specifications

Expansion Slots

PCI-E	1 PCI-E 4.0 x16 Left Riser Slot, 1 PCI-E 3.0 x4 (in x8 slot)
M.2	- M.2 Interface: 1 PCI-E 4.0 x4; 1 PCI-E 3.0 x4 - Form Factor: 2280/22110 - Key: M-Key - Double Height Connector

System BIOS

BIOS Type	256MB UEFI
BIOS Features	- ACPI 6.0 - SMBIOS 3.3 - Plug and Play (PnP) - RTC (Real Time Clock) Wakeup - UEFI 2.7 - USB Keyboard support - PCI 3.0

Management

Software	SuperDoctor® 5, NMI, SUM, SPM, Intel® Node Manager, SSM, IPMI2.0, Watchdog
System Management Software	IPMI (Intelligent Platform Management Interface) v1.5 / 2.0 with KVM support
Power Configurations	ACPI Power Management

PC Health Monitoring

Voltage	VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6 -fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages
LED	- UID/Remote UID - CPU / System Overheat LED
Temperature	- Monitoring for CPU and chassis environment - CPU thermal trip support - Thermal Monitor 2 (TM2) support - PECI
FAN	6x 4-pin fan headers (up to 6 fans) - Thermal control tachometer fan connectors - Fan speed control 6 fans with tachometer status monitoring - Overheat LED indication

Product SKUs		Other Features	
MBD-X12STW-TF	X12STW-TF	WOL, UID, Node Manager Support, M.2 NGFF connector, CPU thermal trip support for processor protection, Control of power-on for recovery from AC power loss, Chassis intrusion header, Chassis intrusion detection, ACPI power management	
Physical Stats		Operating Environment	
Form Factor	Proprietary WIO	Operating Temperature Range	0°C - 50°C (32°F - 122°F)
Dimension	8" x 13" (20.32cm x 33.02cm)	Non-Operating Temperature Range	-40°C - 70°C (-40°F - 158°F)
Processor		Operating Relative Humidity Range	8% - 90% (non-condensing)
CPU	10th Generation Intel® Pentium® Processor, Intel® Xeon® E-2300 Processor - Single Socket LGA-1200 (Socket H5) supported, CPU TDP supports Up to 95W TDP	Non Operating Relative Humidity Range	5% - 95% (non-condensing)
Core	Up to 8 cores, 16 threads		
System Memory			
Memory Capacity	4 DIMM slots - Up to 128GB ECC UDIMM, DDR4-3200MHz		
Memory Type	3200/2933/2666MHz SDRAM		
DIMM Sizes	4GB, 8GB, 16GB, 32GB		
Memory Voltage	1.2V		
Error Detection	Corrects single-bit errors		
On-Board Devices			
Chipset	Intel® C256		
SATA	Intel® C256 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10		
IPMI	ASPEED AST2600 BMC		
Graphics	ASPEED AST2600 BMC		
Network Controllers	Dual LAN with Intel® X550 10GBase-T Ethernet Controller		
Input / Output			
SATA	8 SATA3 (6Gbps) port(s)		
LAN	2 RJ45 10 Gigabit Ethernet LAN ports		
USB	6 USB 2.0 port(s) (4 via header; 2 rear) 4 USB 3.2 Gen1 port(s) (2 via header; 2 rear) 1 USB 3.2 Gen2 port(s) (1 type A)		
Video Output	1 VGA port(s)		
Serial Port	2 COM Port(s) (1 header; 1 rear)		
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-X12STW-TF	1	X12STW-TF Motherboard
I/O Cables	CBL-0044L • eStore	2	57.5CM SATA FLAT S-S PBF

Parts List (Retail Package)			
Name	Part Number	Qty	Description
Motherboard	MBD-X12STW-TF	1	X12STW-TF Motherboard
I/O Cables	CBL-0044L • eStore	4	57.5CM SATA FLAT S-S PBF
QRG	MNL-2354-QRG	1	Motherboard Quick Reference Guide

Optional Parts List			
Name	Part Number	Qty	Description
TPM security module	AOM-TPM-9671H	1	SPI capable TPM 1.2 with Infineon 9670 controller with horizontal form factor
	AOM-TPM-9670H	1	
	AOM-TPM-9671V	1	
	AOM-TPM-9670V	1	
			SPI capable TPM 2.0 with Infineon 9670 controller with horizontal form factor
			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

Chassis (Optimized for X12STW-TF)

Embedded Compact	1U	2U	3U	Mid/Mini-Tower	4U/Tower
	SCLA15TQC-563W SC815TQC4-R504WB3 Heatsink:SNK-P0049P Heatsink:SNK-P0049P				

● = Most optimized Chassis for SuperServer Configuration
Blue color = Compatible
Green color = Global SKU & Compatible
Red dot & green color = Optimized + Global SKU

Server (Optimized for X12STW-TF)

Server Name
SYS-510T-WTR