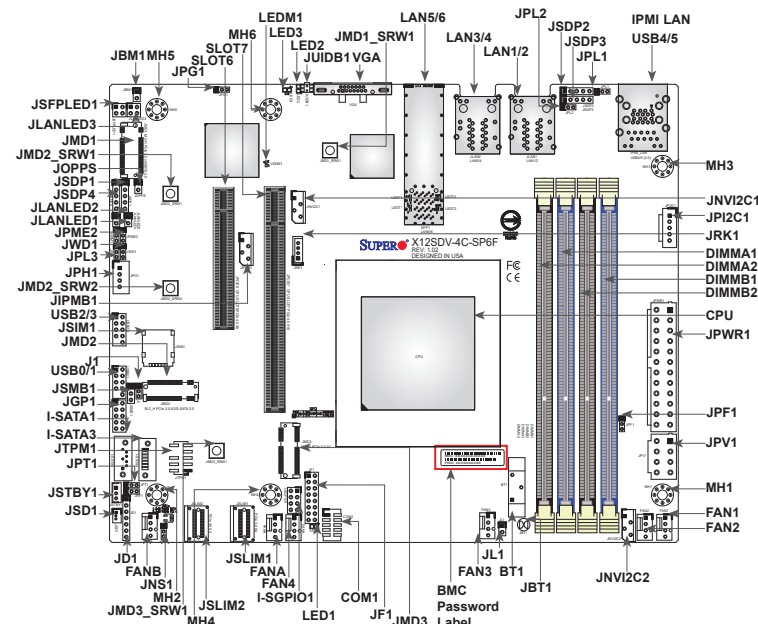


# SUPERMICR® SuperServer 510D-(4C/8C/10C)-FN6P Quick Reference Guide

## Board Layout

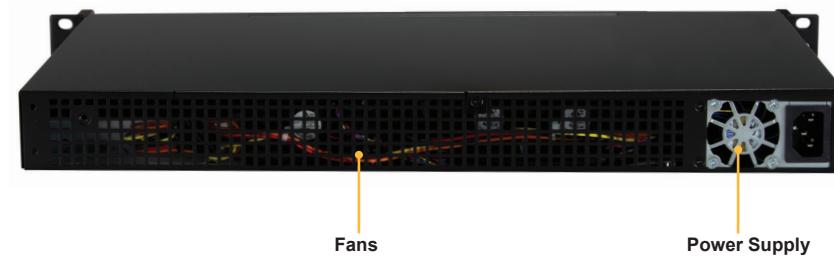


Connector	Description
BT1	Onboard Battery
COM1	COM Header
FAN1 - FAN4, FANA, FANB	CPU/System Fan Headers (FAN1: CPU Fan)
IPMI LAN	Dedicated IPMI LAN Port
I-SATA1 and I-SATA3	Intel PCH SATA 3.0 Ports (I-SATA1: SATA DOM Power)
I-SGPIO1	Serial Link General Purpose I/O Header
JD1	Power LED/Speaker (Pins 1-3: Power LED, Pins 4-7: Speaker)
JF1	Front Control Panel Header
JGP1	General Purpose I/O Header
JIPMB1	4-pin BMC External I <sup>2</sup> C Header
JL1	Chassis Intrusion Header
JLANLED1	LAN1 Activity LED Header
JLANLED2	LAN2 Activity LED Header
JLANLED3	LAN3/4 Activity LED Header
JMD1	M.2 PCIe 3.0 x4 or SATA 3.0 Slot (M-Key 2280)
JMD2	M.2 PCIe 3.0 x2 or SATA 3.0 or USB 3.0 Slot (B-Key 2280/3042/3052)
JMD3	M.2 PCIe 3.0 x1 or USB 2.0 Slot (E-Key 2230)
JMD1_SRW1, JMD2_SRW1/2, JMD3_SRW1	M.2 Mounting Holes
JNVI2C1, JNVI2C2	Non-Volatile Memory (NVMe) I <sup>2</sup> C Headers
JOPPS	Reserved for One Pulse Per Second
JPH1	4-pin HDD Power Connector
JPI2C1	Power System Management (SMB) I <sup>2</sup> C Header
JPWR1	24-pin ATX Power Connector (Required)
JPV1	8-pin CPU Power Connector (Required)
JRK1	Intel RAID Key Header
JSD1	SATA DOM Power Connector
JSDP1 - JSDP4	Reserved for time synchronization
JSFPLED1	LAN5/6 Activity LED header
JSIM1	NANO SIM Slot for JMD2
JSLIM1, JSLIM2	SlimSAS PCIe 3.0 x4 Slots
JSMB1	System Management Bus Header
JSTBY1	Standby Power Header
JTPM1	Trusted Platform Module (TPM)/Port 80 Connector
JUIDB1	Unit Identifier Switch
LAN1/2, LAN3/4	Gigabit Ethernet RJ45 Ports
LAN5/6	25GbE SFP28 LAN Ports
MH1 - MH6	Motherboard Mounting Holes
SLOT6	CPU SLOT6 PCIe 4.0 x8
SLOT7	CPU SLOT7 PCIe 4.0 x16
USB0/1, USB2/3	Front Accessible USB 2.0 Headers
USB4/5	Back Panel USB 3.0 Ports
VGA	VGA Port

## System Overview

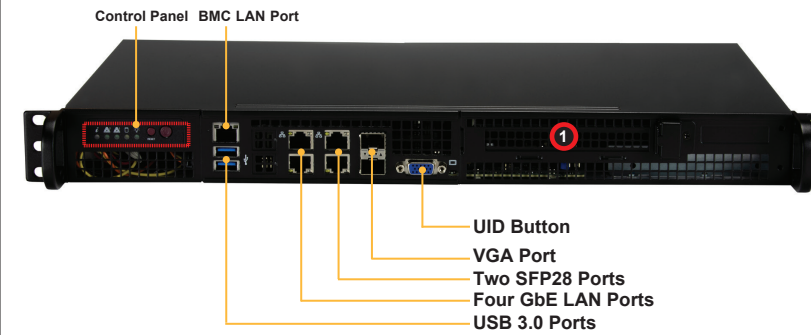
<b>Processor Support</b>	Supports an Intel Xeon D-1700 series processor with a thermal design power (TDP) of up to 80W
<b>Memory</b>	Up to 256GB of ECC and Non-ECC RDIMM/UDIMM DDR4 memory with speeds of up to 2933MHz in four memory slots
<b>Drive Support</b>	Up to four SATA3 2.5" internal solid-state disk drives Internal M.2 slots: One M.2 PCIe 3.0 x4 or SATA 3.0 slot (M-Key 2280) One M.2 PCIe 3.0 x2 or SATA 3.0 or USB 3.0 Slot (B-Key 2280/3042/3052) One M.2 PCIe 3.0 x1 or USB 2.0 slot (E-Key 2230)
<b>Expansion Slots</b>	One FHHL PCIe 4.0 x16 slot Two PCIe 3.0 x4 SlimSAS connectors
<b>Networking</b>	One dedicated BMC LAN port Four Gigabit Ethernet ports Two 25G SFP28 ports
<b>I/O Ports</b>	Two USB 3.0 ports One VGA port Two onboard SATA 3.0 connectors (I-SATA1, I-SATA3)
<b>System Cooling</b>	Three internal fixed 40 x 28 mm fans
<b>Power</b>	200W AC 80Plus Gold power supply
<b>Form Factor</b>	(WxHxD) 17.2 x 1.7 x 9.8 in (437 x 43 x 249 mm) 1U Short-Depth Chassis

## Rear View



Feature	Description
Power Supply	200W AC Gold power supply
Fan	Internal fans

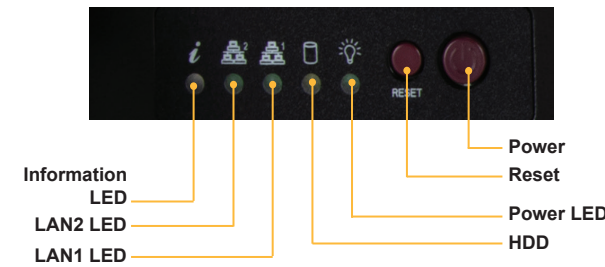
## Front View



Expansion Slot Locations	
Item	Description (all PCIe 4.0)
1	x16 FHHL slot

System Features: Front	
Feature	Description
Control Panel	See the next page
LAN Ports	One dedicated BMC LAN port, four GbE LAN ports, two 25G SFP28 ports
USB Ports	Two USB 3.0 ports
VGA Port	Video port
UID Button	Press the UID button to light up the UID LED indicator.
Solid Blue	The node local UID is on.
1Hz Blinking Blue	The node remote UID is on.
No Illumination	The node is powered down.

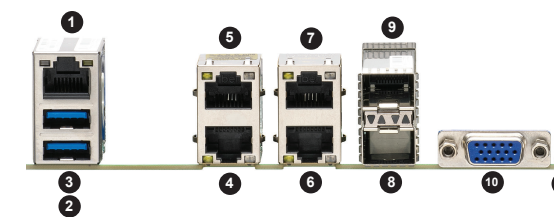
## Control Panel Features



Informational LED	
Color, Status	Description
Red, solid	An overheat condition has occurred.
Red, blinking at 1Hz	Fan failure, check for an inoperative fan.
Red, blinking at 0.25Hz	Power failure, check for a non-operational power supply.
Red, solid, with Power LED blinking green	Fault detected
Blue and red, blinking at 10 Hz	Recovery mode
Blue, solid	UID has been activated locally to locate the server in a rack environment.
Blue, blinking at 1Hz	UID has been activated using the BMC to locate the server in a rack environment.
Blue, blinking at 2Hz	The node is powered down.
Blue, blinking at 4Hz	The node remote UID is on.
Blue, blinking at 10Hz with Power LED blinking green	BMC/BIOS firmware is updating

Feature	Description
Information LED	Alerts operator to several states
LAN2 LED	Indicates network activity on GLAN2 when flashing.
LAN1 LED	Indicates network activity on GLAN1 when flashing.
HDD LED	Indicates activity on the storage drives when flashing.
Power LED	Steady on – Power on Blinking at 4Hz – Checking BIOS/BMC integrity Blinking at 4Hz and "I" LED is blue – BIOS firmware updating Two blinks at 4Hz, one pause 2Hz and "I" LED blue – BMC firmware updating Blinking at 1Hz and "I" LED red – Fault detected
Reset Button	The reset button is used to reboot the system. Press the button with a slender device such as the tip of a pen.
Power Button	The main power button is used to apply or remove power from the power supply to the server. Turning off system power with this button removes the main power but maintains system power. To perform maintenance tasks, you must also unplug the system before servicing.

## Rear I/O Ports



#	Description	#	Description	#	Description
1	IPMI LAN	6	RJ45 LAN3	11	UID Button
2	USB4 (3.0)	7	RJ45 LAN4		
3	USB5 (3.0)	8	SFP28 LAN5		
4	RJ45 LAN1	9	SFP28 LAN6		
5	RJ45 LAN2	10	VGA Port		

## Caution

- SAFETY INFORMATION**  
IMPORTANT: See installation instructions and safety warning before connecting system to power supply.  
[http://www.supermicro.com/about/policies/safety\\_information.cfm](http://www.supermicro.com/about/policies/safety_information.cfm)
- WARNING:**  
To reduce risk of electric shock/damage to equipment, disconnect power from server by disconnecting all power cords from electrical outlets. If any CPU socket empty, install protective plastic CPU cap
- WARNING:**  
Always be sure all power supplies for this system have the same power output. If mixed power supplies are installed, the system will not operate.  
For more information go to : <http://www.supermicro.com/support>

