

Data Sheet

FUJITSU Mainboard D3598-G ATX

Extended Lifecycle Series

Preliminary



Powered by the Intel® X299 Workstation chipset (BasinFalls), quad channel DDR4 2666 U-DIMM memory and Intel® Core™ High Performance i7 & i9 X-series processors (SKL-X; LGA2066)
Designed & approved for 24/7 continuous operation

Chipset:

Intel® X299 Workstation Chipset



Processors:

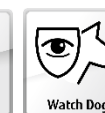
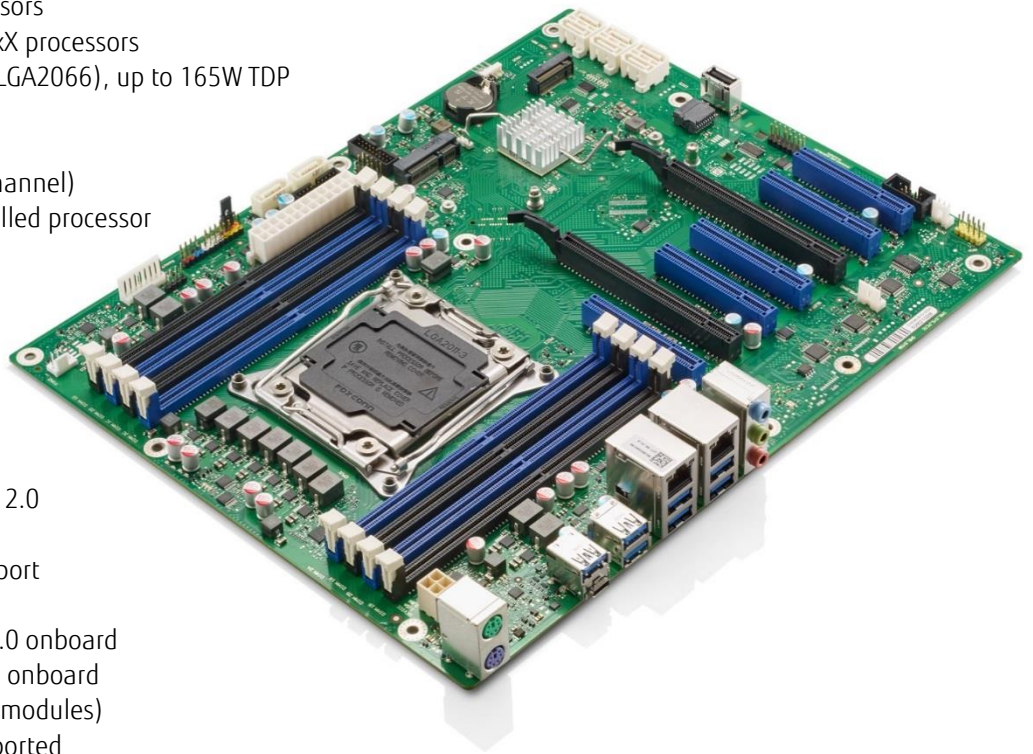
Intel® Core™ i7-78xxX / -98xxX processors
Intel® Core™ i9-79xxX / -98xxX / -99xxX processors
Skylake-X processor series, socket R (LGA2066), up to 165W TDP

Memory:

DDR4 2666 SDRAM (U-DIMM, quad channel)
(memory speed may depend on installed processor and memory configuration)
Up to 128GB memory

Product Features:

Mini-PCIe socket incl. USB 2.0
7 x PCIe generation 3 onboard
5.1 multichannel audio onboard
USB 3.1 Gen2, USB 3.1 Gen1 and USB 2.0
USB 3.1 Gen2 Type C
Dual Intel GbE LAN incl. Teaming support
8 x Serial ATA III incl. RAID onboard
Trusted Platform Modul (Infineon) V2.0 onboard
BIOS-POST/-Boot & OS - HW Watchdog onboard
M.2 SSD 2280 socket (PCIe, for NVMe modules)
Intel® vroc (Virtual RAID on CPU) supported
Intel® Optane™ memory supported



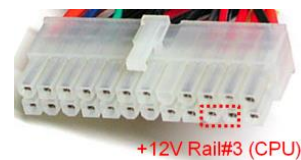
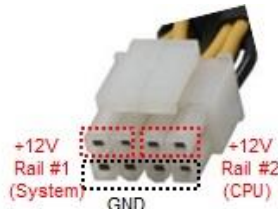
Features and benefits

Board Size	ATX: 12" x 9.6" (305 x 244 mm)
Chipset	Intel® "Basin Falls" X299 Workstation chipset
Memory	8 DIMM Sockets DDR4, max. 128GB, up to 4 channels Single- / dual- rank UDIMM DDR4 2133 / 2400 / 2666, 1.2V, 288-pin, non-ECC Effective memory speed may depend on installed processor and memory configuration
Processors	Intel® Skylake-X series processors Intel® Core™ i7-78xxX / -98xxX Processors Intel® Core™ i9-79xxX / -98xxX / -99xxX Processors Socket R4 (LGA2066), max. 165W TDP, integrated Memory Controller (For details on supported processors please refer to OEM FTP Server)
Power Specification	24 Pin Power Connector + 8 Pin (12V) Power Connector required Support for Soft-Off Power Supplies; 12V and 3.3V Supply Voltage on PCIe Slots 3.3V Auxiliary Supply Voltage on PCIe Slots (Wake-Up Function) On board CPU high-efficiency CPU Voltage Regulator, 5V / 2A Auxiliary Power required for USB Wake-Up from Save-to-RAM, Save-to-Disk

Power Supply Requirements

Source	Voltage	Min. PS Load	Max.Voltage Tolerance	Mainboard Capacitive Load	Mainboard Max. Current (continuous)
Main Power Supply	+ 12 V _{CPU} (Rail#2)	0.05A ^{A)}	± 5 %	1.000µF	~45A ^{B,C)}
	+ 12 V _{CPU} (Rail#3)			1.000µF	
	+ 12 V _{Sys} (Rail#1)			1.000µF	
	- 12V	0A	--	--	--
	+ 5V	0.05A	± 5 %	2.200µF	~ 28A ^{C)}
	+ 3.3V	0.05A	± 5 %	2.000µF	~ 20A ^{C)}
Aux	+ 5Vaux	0A	+5 % / -3%	2.200µF	~ 2A ^{C)}

A) Combined load for all 12V Rails. B) Thereof processor peak current up to 32A (<250ms)
C) Depends on system configuration (Main focus: 12V/3.3V: PCIe Slots; 5V: Memory/USB)



Note:

(further required rails 5V, 3.3V etc. not shown here)

+12V rails: Each +12V/GND PSU pin must support up to 10A continuous current for full system configuration. Single-rail 12V supply instead of three separate 12V rails is possible. See TechNotes document (FTP) for further details.

BIOS	AMI Aptio 5.x (UEFI) BIOS modified and adapted by Fujitsu Technology Solutions; Recovery BIOS, SM-BIOS (DMI), BIOS and CPU Microcode Update, Quick Boot, Logo Boot, Quiet Boot, Plug & Play, Automatic DRAM and PCIe Configuration, BIOS Support for S.M.A.R.T., Advanced Power Management, ACPI S3/S4, Wake on time from S5. Boot support for M.2 Carrier Board D3352-A (PCIe-based SSD modules, NVME required). BIOS integrated HW Diagnostic Tool		
Security Features	Recovery BIOS, System and BIOS Password, Boot Sequence Control, Serial/USB- Port Access Protection, Boot Sector Virus Warning, Write Protection for Flash BIOS, EraseDisk (optional BIOS Feature), Trusted Platform Module TPM V2.0 (Infineon SLB9670)		
Audio	Realtek ALC671, 5.1 Multichannel, High Definition Audio		
USB 3.1 Gen2	ASMedia ASM1142		
LAN	Intel i219LM / Intel i210 Ethernet Controller with 10/100/1000 MBit/s Wake-on-LAN (WoL) by interesting Packets, Link Status Change and Magic Packet™, PXE Support, BIOS MAC Address Display, Teaming Support		
Drives	8 x SATA III 600 Interfaces (up to 6Gbit/s, NCQ); AHCI; RAID 0/1/10. 1 x M.2 Socket (2280) for PCIe (4 lanes) based M.2 modules (NVME required), NVME Boot support Support for Intel® Optane™ and Intel® vroc (Virtual RAID on CPU)		
Special Features	Silent Fan	Independent temperature related processor fan and system fan supervision and control	
	System Guard	View and adjust Silent Fan features	
	Recovery BIOS	Restores a corrupted BIOS	
	Desk Update	Easy driver update with Drivers&Utilities DVD	
	Multi Boot	Comfortable boot from any boot device	
	HDD Password	Access protection for disk drives	
	24/7 Operation	Mainboard is designed for continuous operation	
	Boot Watchdog	Full supervision of BIOS POST and Boot sequence	
	CSA / UL compliance	cTÜVus possible upon request	
	FCC compliance	FCC-B verified (planned)	
Operating Systems	OS	"Runnable"	"Tested/Released by Fujitsu"
	MS Windows 7-64	---	
	MS Windows 10-64	X	X ¹
	Linux-64	X	
Graphics	SLI-Certification for Nvidia Quadro cards: tbd		

1 Test / Release based on MS Windows 10 RS5

Features D3598-G	Board Size / Chipset	ATX / Intel X299
	Stereo Audio / 5.1 Multichannel Audio	- / ✓
	Buzzer / int. Speaker Support	✓ / ✓
	Dual LAN Gbit / 100 Mbit / 10 Mbit	✓ / ✓ / ✓
	DASH / AoL / Boot / iAMT 11.6 / vPro	- / - / ✓ / - / -
	SATA / SATA RAID / eSATA Support / M.2 (PCIe x4) / NVME RAID	✓ / ✓ / ✓ / ✓ / -
	USB 2.0 / USB 3.1 Gen1 / USB 3.1 Gen2 / USB 3.1 Gen2 Type C	✓ / ✓ / ✓ / ✓
	FAN controlled & monitored PSU ² / CPU / AUX1 / AUX2 / AUX3	✓ / ✓ / ✓ / ✓ / ✓
TEMP monitored CPU / Onboard Sensors	✓ / ✓	
Special Features D3598-G	Silent Fan / System Guard	✓ / ✓
	Recovery BIOS / Desk Update / Multi Boot	✓ / ✓ / ✓
	HDD Password / USB Security / EraseDisk ³	✓ / ✓ / ✓
	Logo Boot Option / Intel On Screen Branding	✓ / ✓
	BIOS POST- / BIOS Boot- / OS - HW Watchdog	✓ / ✓ / ✓
	Operating Mode 24-7 / 8-5 (hrs per day - days per week)	✓ / -
	Mainboard operating temperature range (chassis inside)	10°C - 50°C
	Support for additional M.2 SSD modules (via M.2 carrier board D3352) ⁴	✓
Internal Connectors D3598-G	DIMM Sockets (UDIMM DDR4 2666MHz)	8
	PCI Express x16: 16lanes-gen3 ⁵	2
	PCI Express x8: 8 lanes-gen3 / 4 lanes-gen3 / 1 lane-gen3 ⁵	1 / 2 / 2
	SATA (600) / SATA (300) / M.2 SSD	8 / 0 / 1
	S/PDIF / FireWire™ / Audio Input / Front Panel HD Audio (9-Pin)	- / - / - / 1
	USB 2.0 channels / USB 3.1 Gen1 channels / USB 3.1 Gen2 channels / socket for USB2.0 stick / USB 2.0 via Mini-PCIe socket	2 / 4 / 0 / 1 / 1
	Serial (FIFO, 16550 compatible) / SMBus Access	1 / -
	FAN PSU ² / CPU / AUX1 / AUX2 / AUX3	1 / 1 / 1 / 1 / 1
	Intrusion (Case Open)	1
	Intel® vroc license dongle connector	1
	Parallel (EPP/ECP) Pin Connector	-
	Power 24 Pin (BTX) / 8 Pin (additional 12V Supply)	1 / 1
External Connectors D3598-G	Graphics	-
	Audio Mic. In / Line in / Line out	1 / 1 / 1
	LAN (RJ-45) / PS/2 Mouse / PS/2 Keyboard	2 / 1 / 1
	FireWire™ / Serial (RS232) / Parallel (EPP/ECP)	- / - / -
	USB 2.0 / USB 3.1 Gen1 / USB 3.1 Gen2 Type A / USB 3.1 Gen2 Type C	- / 6 / 1 / 1

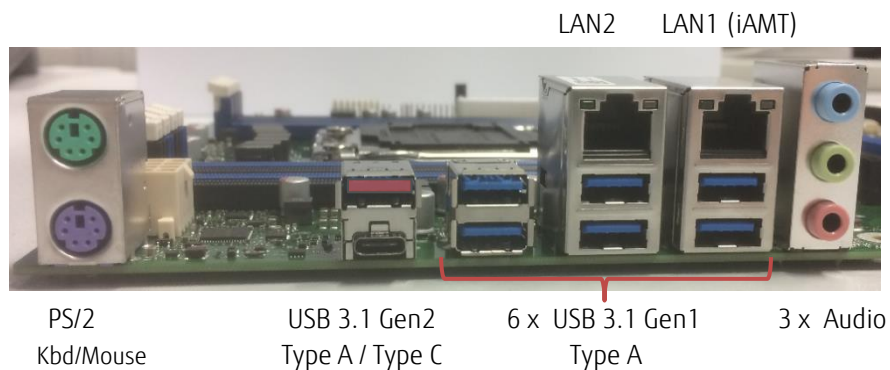
² Not supported by standard Power Supplies

³ Optional BIOS Feature (license required)

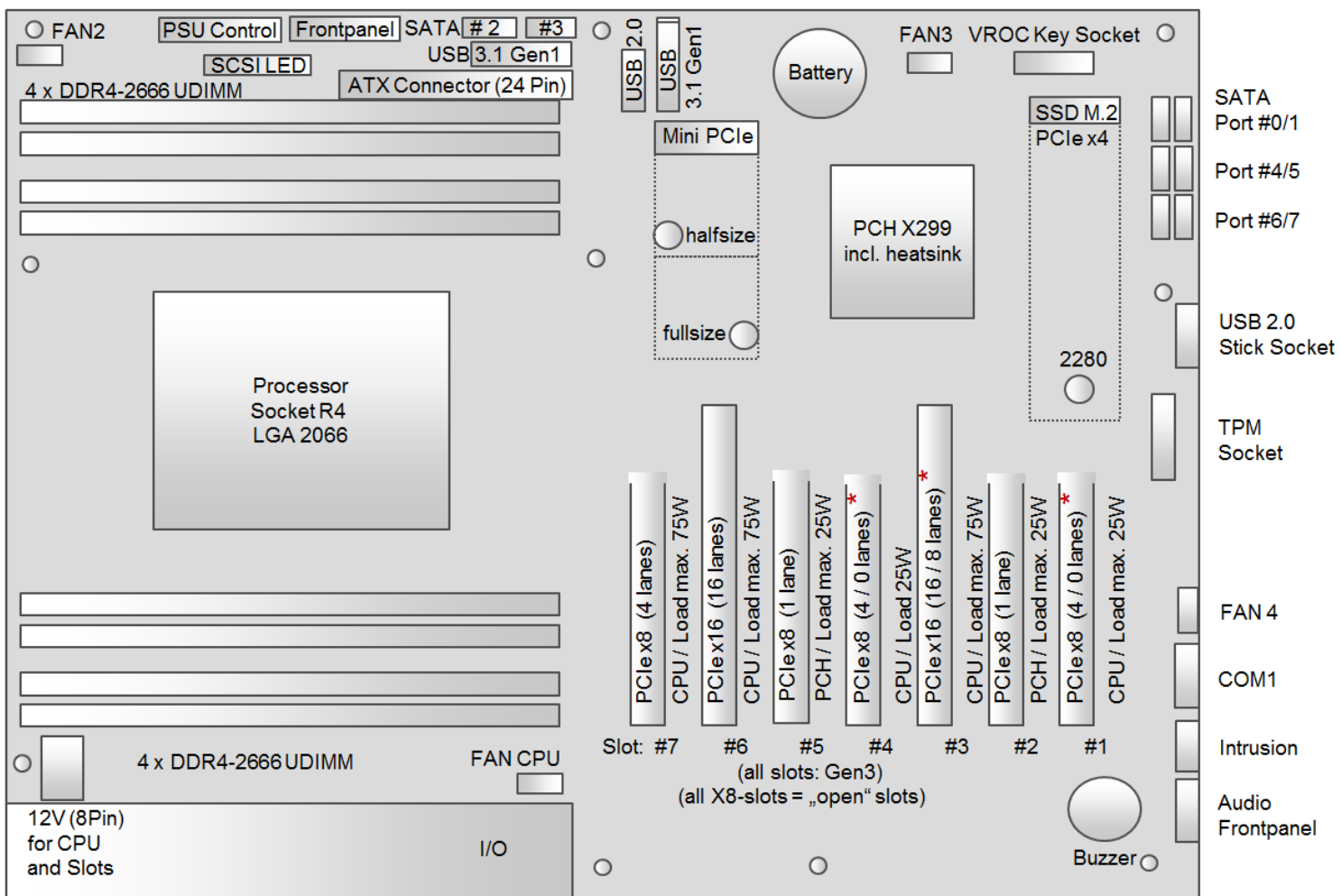
⁴ D3598-G supports up to two carrier boards D3352-A2 (= max. 4 x M.2 SSD modules)

⁵ Reduced PCIe lane support for i7-78xxx processors

External Connectors



Connector / Socket Diagram



* Reduced # of supported lanes for i7-78xxx processors only

Accessories

Adapter Board PCIe to M.2 2230
(for WiFi modules)

D3436-S

S26361-F5000-M3



Serial Port Cable "ATX Slotbracket"

S26361-F5000-K005



M.2 Carrier Board (2 x M.2)
(for PCIe/NVME modules)

D3352-A2

S26361-F5000-M2



M.2 Carrier Board (1 x M.2)
(for PCIe/NVME module)

D3352-A1

S26361-F5000-M1



Further industrial products offered by Fujitsu

- Connectors
- KVM Switches
- Relays
- Touch Panels
- Thermal Printers
- Wireless Modules



24 Volt Kiosk Printers



Multi-Input Touch Panels

Contact:

Fujitsu Components Europe, B.V.
Tel.: +31 (0)23 556 0910
Fax: +31 (0)23 556 0950
Website: emea.fujitsu.com/components
Address: Diamantlaan 25
2132 WV Hoofddorp
Netherlands

More information

Fujitsu products, solutions & services

Products

www.fujitsu.com/global/products/

In addition to the Fujitsu mainboards, Fujitsu offers a full portfolio of other computing products.

Computing products

- Storage systems: ETERNUS
- Server: PRIMERGY, PRIMEQUEST, Fujitsu SPARC M10, BS2000/OSD Mainframe
- Client Computing Devices: LIFEBOOK, STYLISTIC, ESPRIMO, FUTRO, CELSIUS
- Peripherals: Fujitsu Displays, Accessories
- Software
- Network

Product Support Services with different service levels agreements are recommended to safeguard each product and ensure smooth IT operation.

Solutions

<http://www.fujitsu.com/global/solutions>

The Fujitsu solutions combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships. Fujitsu's Solutions include parts of one or more activity groups (e.g., planning, implementation, support, management, and training services) and are designed to solve a specific business need.

Infrastructure Solutions are customer offerings created by bringing Fujitsu's best products, services and technologies together with those from partners to deliver benefit to our customers' businesses.

Industry Solutions are tailored to meet the needs of specific verticals.

Business and Technology Solutions provide a variety of technologies developed to tackle specific business issues such as security and sustainability, across many verticals.

Services

www.fujitsu.com/global/services/

Several customizable Fujitsu Service offerings ensure that IT makes a real difference and delivers true business value. We do this by leveraging our extensive experience in managing large, complex, transformational IT programs to help clients in planning, delivering and operating IT services in a challenging and changing business environment.

Application Services support the development, integration, testing, deployment and on-going management of both custom developed and packaged applications. The services focus on delivering business and productivity improvements for organizations.

Business Services respond to the challenge of planning, delivering and operating IT in a complex and changing IT environment.

Managed Infrastructure Services enable customers to deliver the optimal IT environment to meet their needs – achieving high levels of IT service quality and performance for data center and end user environments.

Fujitsu green policy innovation

www.fujitsu.com/global/about/environment/
Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment. Using our global know-how, we aim to resolve issues of environmental energy efficiency through IT. Please find further information at:



More information

Learn more about Fujitsu, please contact your Fujitsu sales representative, Fujitsu business partner, or visit our website.
www.fujitsu.com/fts/mainboards/

Copyright

© 2015 Fujitsu Technology Solutions GmbH
Fujitsu and the Fujitsu logo are trademarks or registered trademarks of Fujitsu Limited in Japan and other countries.

Intel Chipset C236, Xeon C3 and Intel Core i7 / i5 / i3 are trademarks or registered trademarks of Intel Corporation in America and other countries. Other company, product and service names may be trademarks or registered trademarks of their respective owners. All rights reserved, including intellectual property rights. Changes to technical data reserved. Delivery subject to availability. Any liability that the data and illustrations are complete, actual or correct is excluded.

Disclaimer

Technical data subject to modification and delivery subject to availability. Any liability that the data and illustrations are complete, actual or correct is excluded. Designations may be trademarks and/or copyrights of the respective manufacturer, the use of which by third parties for their own purposes may infringe the rights of such owner.

Contact

Fujitsu Technology Solutions GmbH
OEM Mainboard Sales
Email: oem-sales@ts.fujitsu.com

Website: <http://ts.fujitsu.com>
2018-11-14

Copyright © Fujitsu Technology Solutions

All rights reserved, including intellectual property rights. Changes to technical data reserved. Delivery subject to availability. Any liability that the data and illustrations are complete, actual or correct is excluded. Designations may be trademarks and/or copyrights of the respective manufacturer, the use of which by third parties for their own purposes may infringe the rights of such owner.

For further information see http://ts.fujitsu.com/terms_of_use.html