

# Data Sheet

## FUJITSU Mainboard D3642-B µATX

### Extended Lifecycle Series

Powered by the Intel® Q370 Express Chipset supporting DDR4-2666 SDRAM Memory and Intel® 8<sup>th</sup> generation Core™ i7 / i5 / i3 Processors.



Designed and approved for 24/7 continuous operation @ 50°C

#### Chipset:

Intel® Q370 Express Chipset

#### Processors:

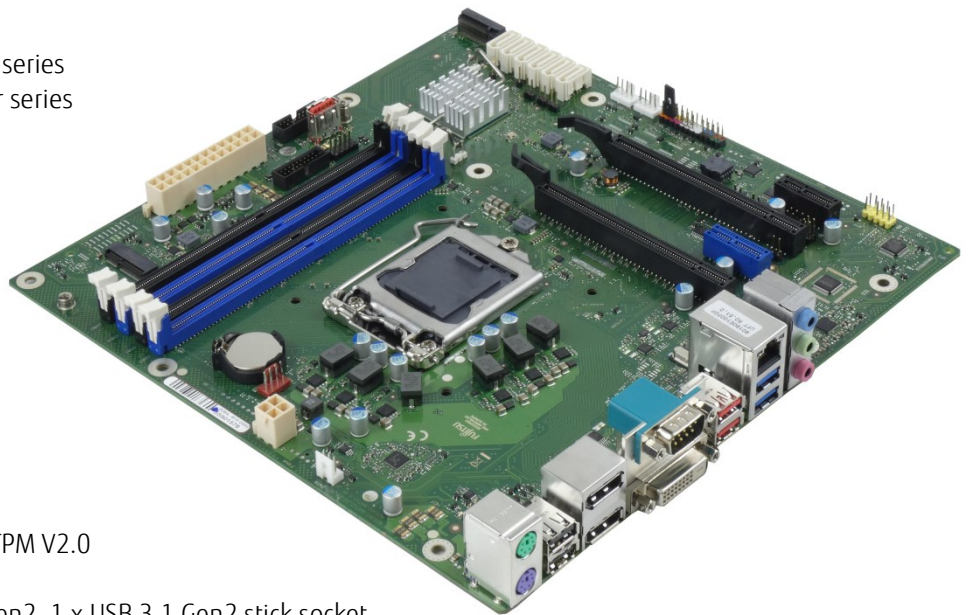
Intel® Core™ i7 / i5 / i3 (8<sup>th</sup> gen.) processor series  
Intel® Pentium® / Intel® Celeron® processor series  
Socket LGA1151 – up to 95W TDP

#### Memory:

DDR4-2666, Dual Channel  
4 DIMM sockets, up to 64GB memory

#### Product Features:

Supporting Intel AMT 12.0 / vPro  
PCI Express x16 (Gen.3)  
Intel® GbE LAN  
Intel® UHD Graphics (DX12)  
1x DVI-D, 2x DP V1.2  
Intel® High Definition 5.1 Audio; Infineon TPM V2.0  
1 x COM port  
4x USB 2.0, 6x USB 3.1 Gen1, 2x USB 3.1 Gen2, 1 x USB 3.1 Gen2 stick socket  
6x SATA 6G/s incl. RAID support  
M.2 2280 (PCIe-based SSD modules)  
M.2 2230 (WLAN/Bluetooth modules)  
BIOS-POST/-Boot & OS – HW Watchdog onboard



# Features and benefits

<b>Board Size</b>	µATX: 9.6" x 9.6" (243.8 x 243.8 mm)
<b>Chipset</b>	Intel® Q370 Express Chipset
<b>Memory</b>	4 DIMM Sockets DDR4-2666 (1.2V), max. 64GB, Dual Channel DDR4 -2666 (CL19) / -2400 (CL17) / -2133 (CL15) SDRAM, unbuffered, non-ECC Effective memory speed depends on installed processor
<b>Processor</b>	Intel® Core™ i7 / i5 / i3 (8 <sup>th</sup> generation) processor series Intel® Pentium® / Intel® Celeron® processor series Socket LGA1151, max. 95W TDP (For details on supported processors please refer to OEM FTP Server)
<b>Power Specification</b>	ATX- 24 Pin or ATX- 20 Pin + 4 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 high-efficiency CPU Voltage Regulator, 5V / 2.5A Auxiliary Power required for USB Wake-Up from Save-to-RAM, Save-to-Disk
<b>Power Supply Requirements</b>	for mainboard only - worst case incl. processor & memory; w/o USB devices; w/o PCIe cards; w/o SATA drives; w/o M.2 devices

Source	Voltage	Min. PS Load	Max.Voltage Tolerance	Mainboard Capacitive Load	Max. Mainboard Current
Main Power Supply	+ 12V	0.05A	± 5 %	5.000µF	10A/18A <sup>1)</sup>
	- 12V	0A	± 10 %	470µF	0.3A
	+ 5V	0.2A	± 5 %	3.000µF	6.0A
	+ 3.3V	0A	± 5 %	3.000µF	0.5A
Aux. Power	+ 5Vaux	0A	+5 % / -3%	3.000µF	2.5A

.1) Processor 95W TDP: Max. Cont. Current = 10A; max. Surge Current = 16A (< 100sec) / 18A (< 10ms)  
Processor 65W TDP: Max. Cont. Current = 7A; max. Surge Current = 14A (< 100sec) / 18A (< 10ms)  
Processor 35W TDP: Max. Cont. Current = 4A; max. Surge Current = 10A (< 100sec) / 14A (< 10ms)

<b>BIOS</b>	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. HW Watchdog support & BIOS integrated HW Diagnostic Tool. <b>No legacy OS support, no MBR installation</b> (UEFI only due to Intel restrictions)
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<b>Security Features</b>	Recovery BIOS, System and BIOS Password, Boot Sequence Control, Serial-/ Parallel-/ USB- Port Access, Boot Sector Virus Warning, Write Protection for Flash BIOS, Erase Disk <sup>1</sup> (BIOS Feature); TPM V2.0 (Infineon; TCG compliant).
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<sup>1</sup> License required!

<b>Special Features</b>	Silent Fan	Independent temperature related processor fan and system fan supervision and control	
	System Guard	View Silent Fan features	
	Recovery BIOS	Restores a corrupted BIOS	
	Desk Update	Simple driver update with Driver & Utilities DVD	
	Multi Boot	Comfortable boot from any boot device	
	HDD Password	Access protection for disk drives / M.2 SSD modules	
	CSA / UL compliance	cTÜVus acc. IEC62368-1	
	FCC compliance	FCC-B verified (planned)	
<b>Operating Systems</b>	<b>OS</b>	<b>"Runnable"</b>	<b>"Tested/Released by Fujitsu"</b>
	MS Windows 10 RS3	X	X
	MS Windows 10 RS4	X	X
	Linux-64	X	tbd
<b>Important Note:</b> <b>Legacy OS / MBR installation (DOS, MS Windows 7, ...) is not supported due to Intel restrictions</b>			
<b>Graphics</b>	Intel® UHD Graphics (depends on installed processor), DX12 2 x DisplayPort V1.2 1 x DVI-D VGA output possible via optional VGA extension module D3653		
<b>Audio</b>	Realtek ALC671, 5.1- channel, High Definition Audio Codec		
<b>TPM</b>	TPM V2.0 (Infineon SLB9670; TCG compliant)		
<b>LAN</b>	Intel i219LM 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		
<b>SATA Ports</b>	6 x Serial ATA III 600 Interface (up to 6Gbit/s), NCQ, AHCI, RAID 0/1/5/10		
<b>M.2 Sockets</b>	M.2 2280 Key-M for PCIe-based SSD NVME modules; 4 x PCIe Gen3 lanes M.2 2230 Key-E for PCIe/USB-based WLAN/Bluetooth modules; 1 x PCIe Gen3, 1 x USB2.0		
<b>Legacy Ports</b>	1 x external RS-232 port 1 x PS/2 (mouse) 1 x PS/2 (keyboard)		
<b>Designed for 24/7 use</b>	Longlife components for 24 / 7 continuous operation @ 50°C Revision control & Extended Lifecycle (up to 3 years)		

<b>Features</b> <b>D3642-B</b>	Chipset / Board Size	iQ370 / µATX
	VGA <sup>2</sup> / DVI-I / DVI-D / DP V1.2 / 2 <sup>nd</sup> DP V1.2 / LVDS	- / - / ✓ / ✓ / ✓ / ✓ / -
	Stereo Audio / 5.1 Multichannel Audio / Front Panel Audio	- / ✓ / ✓
	Buzzer / internal Speaker Support (mono)	- / ✓
	LAN Gbit / 100 Mbit / 10 Mbit / WoL / LAN Boot	✓ / ✓ / ✓ / ✓ / ✓ / ✓
	AMT 12.0 vPro / Intel Standard Manageability / DASH V1.1	✓ / ✓ / ✓
	SATA / SATA-RAID / eSATA-Support / mSATA / M.2 SSD (PCIe)	✓ / ✓ / ✓ / ✓ / - / ✓
	USB 2.0 / USB 3.1 (gen1) / USB 3.1 (gen2)	✓ / ✓ / ✓
	FAN monitored & controlled PSU <sup>3</sup> / CPU / AUX1 / AUX2 / Aux3	- / ✓ / ✓ / ✓ / ✓ / -
	TEMP monitored CPU / onboard sensors / external sensor	✓ / ✓ / ✓ / -
<b>Special Features</b> <b>D3642-B</b>	Silent Fan / System Guard	✓ / ✓
	Recovery BIOS / Desk Update / Multi Boot	✓ / ✓ / ✓
	HDD Password / EraseDisk <sup>4</sup> / TPM V2.0	✓ / ✓ / ✓
	BIOS POST Watchdog / BIOS Boot Watchdog / OS HW Watchdog	✓ / ✓ / ✓
	Logo Boot Option / Intel On Screen Branding	✓ / ✓
	High Efficiency Core Voltage Regulator Design	✓
	Operating Mode 24-7 / 8-5 (hrs per day - days per week)	✓ / -
	Mainboard operating temperature range (chassis inside) <sup>5</sup>	10°C – 50°C
<b>Internal Connectors</b> <b>D3642-B</b>	DIMM Sockets (DDR4-2666)	4
	PCI Express x16 (16 Lanes, Gen3) / PCI Express x16 (4 Lanes, Gen3)	1 / 1
	PCI Express x1 (Gen3, "open slot") / PCI Express x1 (Gen3, "closed slot")	1 / 1
	PCI Slots (32Bit, 33 MHz, Rev. 2.3) / Mini-PCIe	- / -
	SATA-600 / mSATA / M.2 SSD 2280 (Key-M, PCIe/NVME)	6 / - / 1
	M.2 2230 (Key-E, PCIe & USB2.0 for WLAN/Bluetooth)	1
	S/PDIF (digital Audio) OUT / IN	- / -
	Front Panel Audio (9-Pin, HD Audio)	1
	USB 2.0 / USB 3.1 (Gen1) / USB 3.1 (Gen2) / USB 3.1 (Gen2) Stick <sup>6</sup>	1 / 2 / - / 1
	FAN PSU / CPU / AUX1 / AUX2 / Aux3	- / 1 / 1 / 1 / -
	Intrusion (Case Open) / GPIO <sup>7</sup> (8Bit) / SM-Bus (Case Temp.)	1 / - / -
	Serial (COM, RS-232) / Parallel Port Pin Header	- / -
	Front Panel (Power Switch, Reset Switch, LEDs, Intel 10 pin compatible)	1
	ATX Power Supply (24 pin + 4 pin) / 12V-only Power Supply	✓ / -
<b>External Connectors</b> <b>D3642-B</b>	VGA Sub D <sup>2</sup> / DVI-I / DVI-D / DisplayPort V1.2	- / - / 1 / 2
	Audio Mic. In / Line in / Line out (or driver configuration)	1 / 1 / 1
	LAN (RJ-45)	1
	PS/2 Mouse / Keyboard	1 / 1
	USB 2.0 / USB 3.1 (Gen1) / USB 3.1 (Gen2)	2 / 2 / 2
	Serial (COM1, RS-232)	1
	Parallel (EPP/ECP)	-

<sup>2</sup> VGA possible via optional converter board D3653 or DP-VGA-converter (dongle)

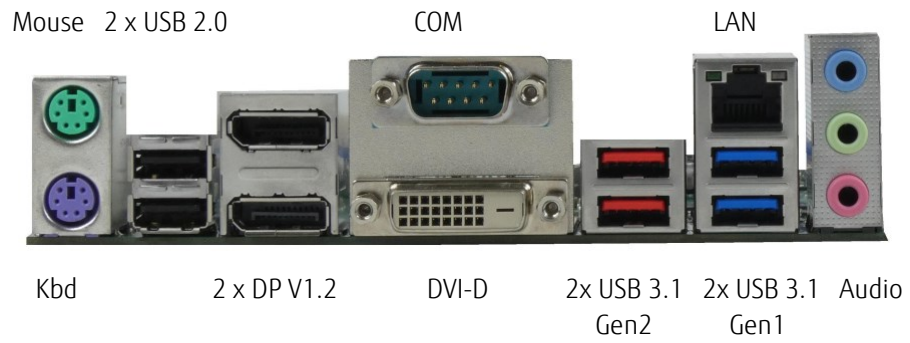
<sup>3</sup> Not supported by standard Power Supplies

<sup>4</sup> License required

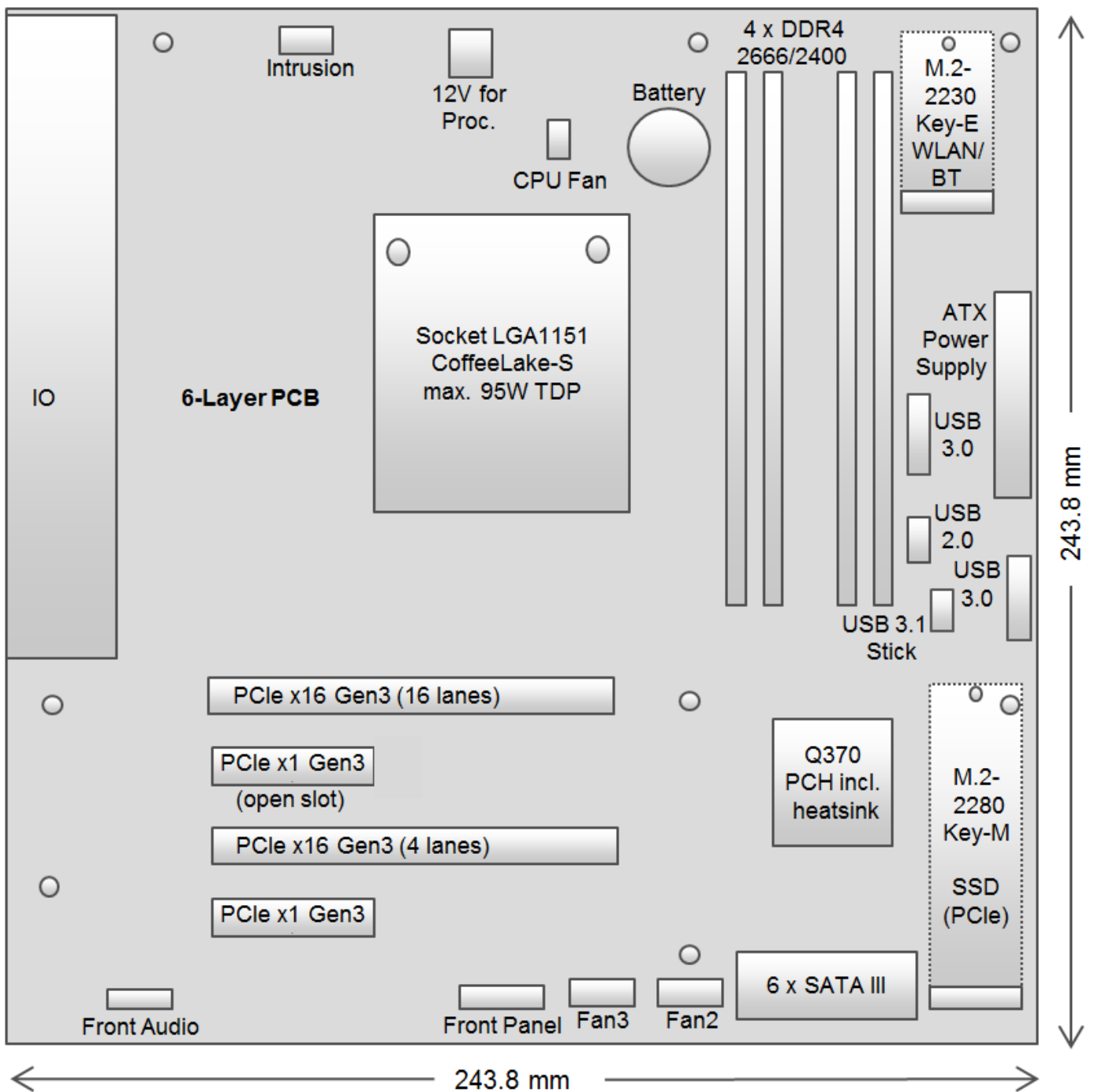
<sup>5</sup> Forced cooling required, see technical documentation for details

<sup>6</sup> Each internal USB connector (pin header) provides two USB ports (except for USB stick socket)

External Connectors



Connector / Socket Diagramm



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**Accessories**

	OEM Order Code
Fujitsu VGA Converter Board D3653	S26361-F5000-Rx
M.2 Carrier Board D3352-A1	S26361-F5000-M1
Displayport to DVI Converter Cable (400mm)	S26361-F5000-A3



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- Wireless Modules



24 Volt Kiosk Printers



Multi-Input Touch Panels

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# More information

## Fujitsu products, solutions & services

### Products

[www.fujitsu.com/global/products/](http://www.fujitsu.com/global/products/)

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### Computing products

- Storage systems: ETERNUS
- Server: PRIMERGY, PRIMEQUEST, Fujitsu SPARC M10, BS2000/OSD Mainframe
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- Peripherals: Fujitsu Displays, Accessories
- Software
- Network

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

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## Fujitsu green policy innovation

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## More information

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