

# Data Sheet

## FUJITSU Mainboard D3433-S Mini-ITX

### Industrial Series



Powered by the Intel® Q170 Express Chipset supporting DDR4 2133 SDRAM Memory and 6<sup>th</sup> generation Intel® Core™ i3 / i5 / i7 Processors (Socket LGA1151)  
Designed & approved for enhanced operating temperature range from 0°C to 60°C  
Designed & approved for 24/7 continuous operation

#### Chipset:

Intel® Q170 Express Chipset

#### Processors:

Intel® Core™ i7 / i5 / i3 – (6<sup>th</sup> gen.) processor series  
Intel® Pentium® / Celeron® processor series  
Socket LGA1151 – up to 65W TDP

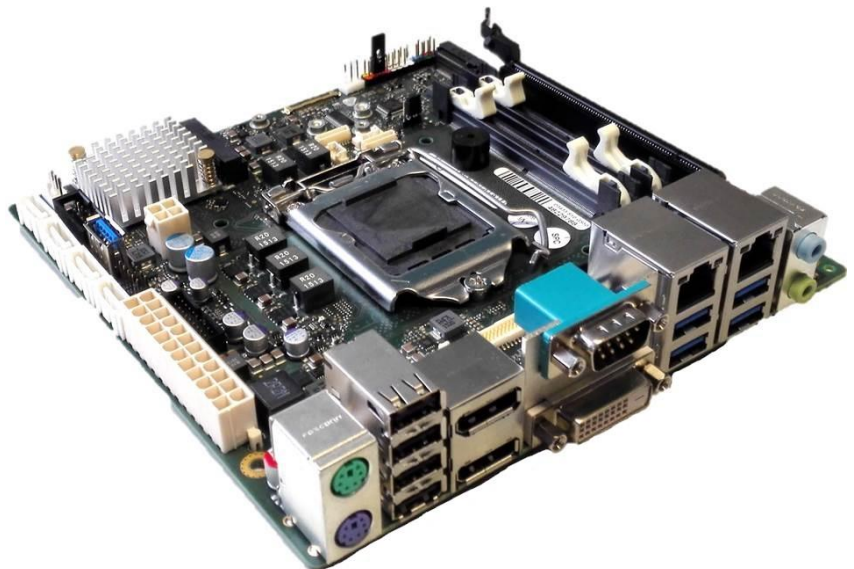


#### Memory:

DDR4 2133 SDRAM (SO-UDIMM)

#### Product Features:

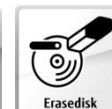
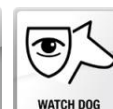
Intel® iAMT 11.0 / vPro 2015  
Intel® HD Graphics (integrated in processor e.g. HD510/530)  
DVI-D, Dual DP V1.2, eDP and Dual Channel LVDS support  
PCI Express x16 Gen3 and Mini-PCI Express onboard  
8 Bit GPIO & multichannel Audio onboard  
mSATA (SATA III) socket support (for Embedded OS)  
Onboard support for M.2 SSD (PCIe or SATA modules)  
USB 2.0/3.0 and USB socket (stick/dongle USB3.0) onboard  
2 x Intel GbE LAN onboard (incl. teaming support)  
Infineon TPM V2.0 onboard



Dual Power Supply (ATX compliant & 12V only)  
BIOS-POST/-Boot & OS – HW Watchdog onboard



(planned)



# Features and benefits

**Board Size** Mini-ITX: 6.7" x 6.7" (170 x 170 mm)

**Chipset** Intel® Q170 Express Chipset

## Memory

2 x SO DIMM Socket DDR4, max. 32GB, Dual Channel, 2133MHz (CL15), UDIMM, 1.2V, 256-pin, non-ECC.

Effective memory speed depends on installed processor

## Processor

Intel® Core™ i7 / i5 / i3 – (6th generation) processor series

Intel® Pentium® / Intel® Celeron® processor series

Socket LGA1151, max. 65W TDP

(For details on supported processors please refer to OEM FTP Server)

## Power Specification

ATX- 24 Pin / ATX- 20 Pin or 12V only Power Supply required; Support for Soft-Off Power Supplies; 3.3V Auxiliary Supply Voltage on PCIe Slot (Wake-Up Function)

## Power Supply Requirements

for onboard components (worst case incl. processor & memory; w/o USB devices; w/o PCIe cards, w/o M.2 / mSATA / SATA drives)

Source <sup>1)</sup>	Voltage	Min. PS Load	Max.Voltage Tolerance	Mainboard Capacitive Load	Max. Mainboard Current
ATX Power Supply	+ 12V	0.05A	± 5 %	1.300µF	8A/12A <sup>2)</sup>
	- 12V	0A		--	not used
	+ 5V	0.2A	± 5 %	900µF	3A
	+ 3.3V	0A	± 5 %	350µF	0.5A
	+ 5Vaux	0A	+5 % / -3%	330µF	0.5A
12V only PSU	+12V	0A	± 5 %	1.300µF	8A/12A <sup>2)</sup>

1) ATX PSU or 12V only DC Supply

2) Max. Cont. Current = 8A; max. Surge Current = 10A (< 100sec) / 12A (< 10ms)

## 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 SSD (PCIe-based or SATA-based modules, AHCI / NVME)

BIOS integrated HW Diagnostic Tool, Watchdog Support

## 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 (BIOS Feature), Infineon TPM V2.0

## Special Features

Silent Fan	Independent temperature related processor fan and system fan supervision and control
System Guard	View and adjust Silent Fan features
Silent Drives	Noise reduction for optical and hard disk drives
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
Always On	Reliable power-on whenever voltage is connected
Never Off	Option to prevent the system from being shut down
CSA / UL / FCC certified	cCSAus 60950-1/ FCC-B (planned)

## Supported / Released Operating Systems

OS	"Runnable"	"Tested/Released by Fujitsu"
MS Windows XP	--	--
MS Windows 7-32/64	X	X
MS Windows 8.1-64	X	X
MS Windows 10-64	X	X
Linux-32/64	X	--

## Designed for Industrial Applications

Longlife components Designed for 24/7 use in industrial applications

Revision control Strict control and pre-announcement

Extended lifecycle Mainboard available for more than four years

Industrial grade EMI immunity

Enhanced operating temperature range (0°C-60°C) <sup>1)</sup>

## Graphics

Intel® HD Graphics, DX12, Embedded Display Port (2 lanes supported)

DVI-D, 2 x DisplayPort V1.2, Dual-Channel 24bit LVDS (max. 3 indep. displays)

## Audio

Realtek ALC671, 5.1-channel, High Definition Audio Codec

## LAN

Intel i219LM & i210AT with 10/100/1000 Mbit/s, iAMT 11 / vPro Support,

Wake-on-LAN (WoL) by interesting Packets, Link Status Change and

Magic Packet™, PXE Support, BIOS MAC Address Display, Teaming Support

## Drives

4 Serial ATA III 600 Interface (up to 6Gbit/s), NCQ, AHCI, RAID 0/1/5/10

1 mSATA (halfsize / fullsize, SATA III 600); 1 x M.2 Socket (2242/2260) for

PCIe (2 lanes) or SATA based M.2 modules, AHCI / NVME Boot support

Features	D3433-S
Chipset	iQ170
Board Size	Mini-ITX
VGA / DVI-I / DVI-D / DP V1.2 / 2 <sup>nd</sup> DP V1.2 / LVDS / eDP	- / - / ✓ / ✓ / ✓ / ✓ / ✓
Buzzer / int. Speaker Support / 5.1 Multichannel Audio	✓ / ✓ / ✓
Dual LAN Gbit / 100 Mbit / 10 Mbit / WoL / LAN Boot	✓ / ✓ / ✓ / ✓ / ✓
iAMT 11.0 vPro / Intel Standard Manageability / DASH V1.1	✓ / ✓ / ✓
SATA / ATA / RAID / eSATA-Support / mSATA / M.2 SSD	✓ / - / ✓ / ✓ / ✓ / ✓
FireWire™ / USB 2.0 / USB 3.0	- / ✓ / ✓
FAN monitored & controlled PSU / CPU / AUX1 <sup>2)</sup> / AUX2	- / ✓ / ✓ / -
TEMP monitored CPU / onboard sensors / external sensor	✓ / ✓ / -
<b>Special Features</b>	
Silent Fan / Silent Fan LT / System Guard / Silent Drives	- / ✓ / - / ✓ / ✓
Recovery BIOS / Desk Update / Multi Boot	✓ / ✓ / ✓
HDD Password / HDD Encryption / EraseDisk / TPM	✓ / - / ✓ / ✓
Logo Boot Option / Intel On Screen Branding	✓ / ✓
High Efficiency Core Voltage Regulator Design	✓
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) <sup>2)</sup>	0°C - 60°C
<b>Internal Connectors</b>	
SO DIMM Sockets (DDR4 2133)	2
PCI Express x16 (Gen3) / Support for lane split (8+8 or 8+4+4)	1 / ✓
Shared mSATA / Mini PCI Express Slot (half/fullsize, incl.USB 2.0)	1
SATA-600 / SATA-300 / mSATA <sup>4)</sup> / M.2 SSD <sup>4)</sup>	4 / - / 1 / 1
S/PDIF (digital Audio) OUT / IN	1 / 0
Frontpanel Audio (9-Pin, HD Audio & Legacy Audio AC97)	1
USB 2.0 channels / USB 3.0 channels / USB Stick (3.0)	2 / 2 / 1
Serial (COM2, RS232) / Parallel Port Connector	1 / -
LVDS / LVDS Backlight / Embedded DisplayPort	1 / 1 / 1
FAN PSU / CPU / AUX1 <sup>2)</sup> / AUX2	0 / 1 / 1 / 0
Intrusion (Case Open) / GPIOI(8Bit) / SMBus (Case Temp.)	1 / 1 / -
ATX Power Supply (24 pin + 4 pin) / 12V-only PSU <sup>3)</sup>	1 / 1
<b>External Connectors</b>	
VGA Sub D / DVI-I / DVI-D / DisplayPort V1.2	- / - / 1 / 2
Audio Mic. In / Line in / Line out (or driver configuration)	- / 1 / 1
LAN (RJ-45)	2
PS/2 Mouse / Keyboard	1 / 1
USB 2.0 / USB 3.0	4 / 4
Serial (COM1, RS232)	1

1) Forced cooling required, see technical documentation for detailed requirements

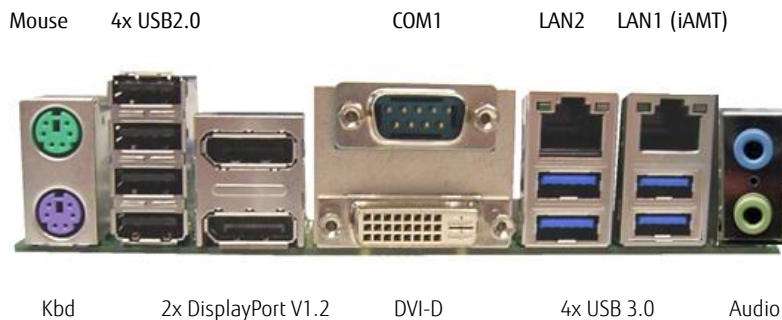
2) Fan AUX1 = 3Pin & PWM support

3) Alternative: Powered by 12V DC only. See TechNotes document for further details

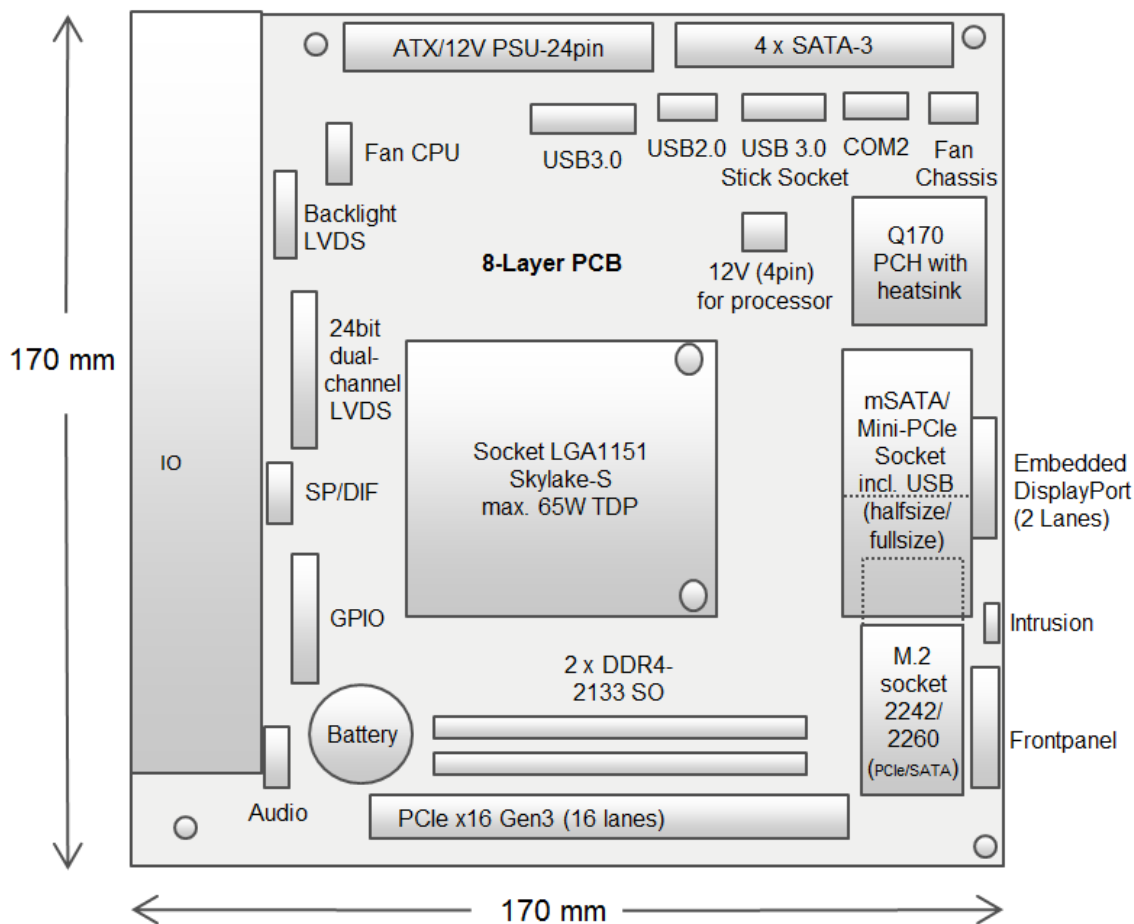
4) mSATA slot can be configured as Mini-PCIe slot via BIOS Setup

If a M.2 module @60mm is installed, only halfsize mSATA/Mini-PCIe module can be installed!

## External Connectors



## Connector / Socket Diagram



## 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:

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# More information

## Fujitsu products, solutions & services

### Products

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

In addition to the Fujitsu [Product name], 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/](http://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/](http://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

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