

Data Sheet

FUJITSU Mainboard D3433-S Mini-ITX

Industrial Series

Powered by the Intel® Q170 Express Chipset supporting DDR4 2133/2400 SDRAM Memory and 6th & 7th 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

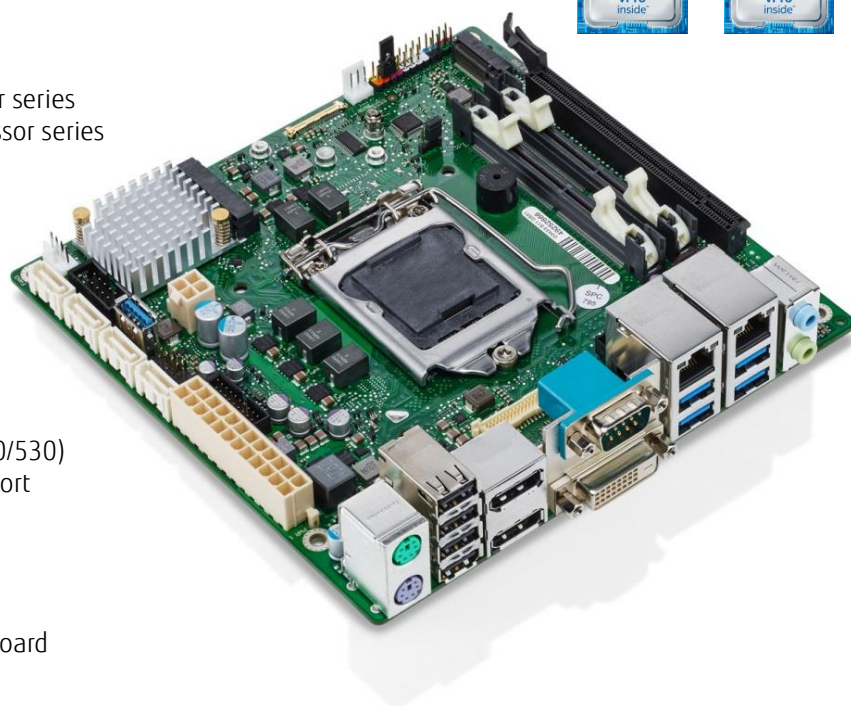


Chipset:
Intel® Q170 Express Chipset



Processors:
Intel® Core™ i7 / i5 / i3 – (6th gen. & 7th gen.) processor series
Intel® Pentium® / Celeron® (6th gen. & 7th gen.) processor series
Socket LGA1151 – up to 65W TDP

Memory:
DDR4 2133 SDRAM (SO-UDIMM)
DDR4 2400 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



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 (1.2V), max. 32GB, Dual Channel, DDR4 - 2133 (CL15) / - 2400 (CL17) SDRAM, unbuffered, non-ECC Effective memory speed depends on installed processor
Processor	Intel® Core™ i7 / i5 / i3 - (6 th generation) processor series Intel® Core™ i7 / i5 / i3 - (7 th generation) processor series (D3433-S2 only) 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 ¹⁾	Voltage	Min. PS Load	Max. Voltage Tolerance	Mainboard Capacitive Load	Max. Mainboard Current
ATX Power Supply	+ 12V	0.05A	± 5 %	1.300µF	8A/12A ²⁾
	- 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 ²⁾

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)	

Operating Systems	OS	"Runnable"	"Tested/Released by Fujitsu"
	MS Windows XP	--	--
	MS Windows 7-32 ¹⁾	X	X
	MS Windows 7-64 ¹⁾	X	X
	MS Windows 8.1-64 ¹⁾	X	X (-S1 only)
	MS Windows 10-64	X	X
	Linux-32	X	--
	Linux-64	X	--

1) Requires Skylake (= 6th gen.) processor!

Further Features

Feature	Mainboard Versions	
	D3433-S1x	D3433-S2x
UDIMM DDR4-2133 / DDR4-2400	x / - ¹⁾	x / x
Intel® Core™ i processor series – 6 th gen. / 7 th gen.	x / -	x / x
Intel® Pentium® / Celeron® processor series – 6 th gen. / 7 th gen.	x / -	x / x
Skylake Drivers / Kabylake Drivers (MS Windows)	x / x	- / x

1) DDR4-2400 modules can be used, but they will operate at reduced speed

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) ¹⁾	

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)
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Audio	Realtek ALC671, 5.1-channel, High Definition Audio Codec
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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
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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
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¹ Forced cooling required, see technical documentation for detailed requirements

Features D3433-S	Chipset	iQ170
	Board Size	Mini-ITX
	VGA / DVI-I / DVI-D / DP V1.2 / 2 nd 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 ² / AUX2	- / ✓ / ✓ / -
	TEMP monitored CPU / onboard sensors / external sensor	✓ / ✓ / -
Special Features D3433-S	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) ²	0°C – 60°C
	Internal Connectors D3433-S	SO DIMM Sockets (DDR4 2133)
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 ³ / M.2 SSD ³		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 ² / AUX2		0 / 1 / 1 / 0
Intrusion (Case Open) / GPIO ⁴ (8Bit) / SMBus (Case Temp.)		1 / 1 / -
ATX Power Supply (24 pin + 4 pin) / 12V-only PSU ⁴		1 / 1
External Connectors D3433-S		VGA Sub D / DVI-I / DVI-D / DisplayPort V1.2
	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

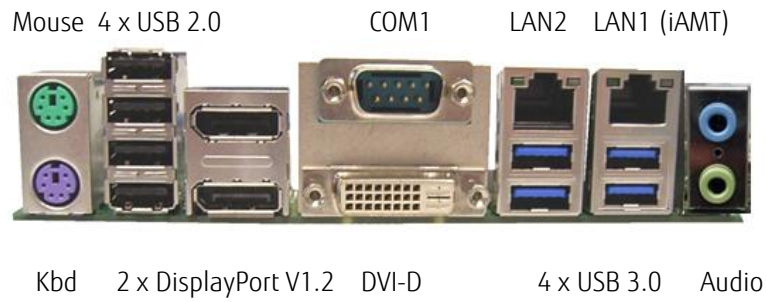
² Fan AUX1 = 3Pin & PWM support

³ mSATA slot can be configured as Mini-PCIe slot via BIOS Setup

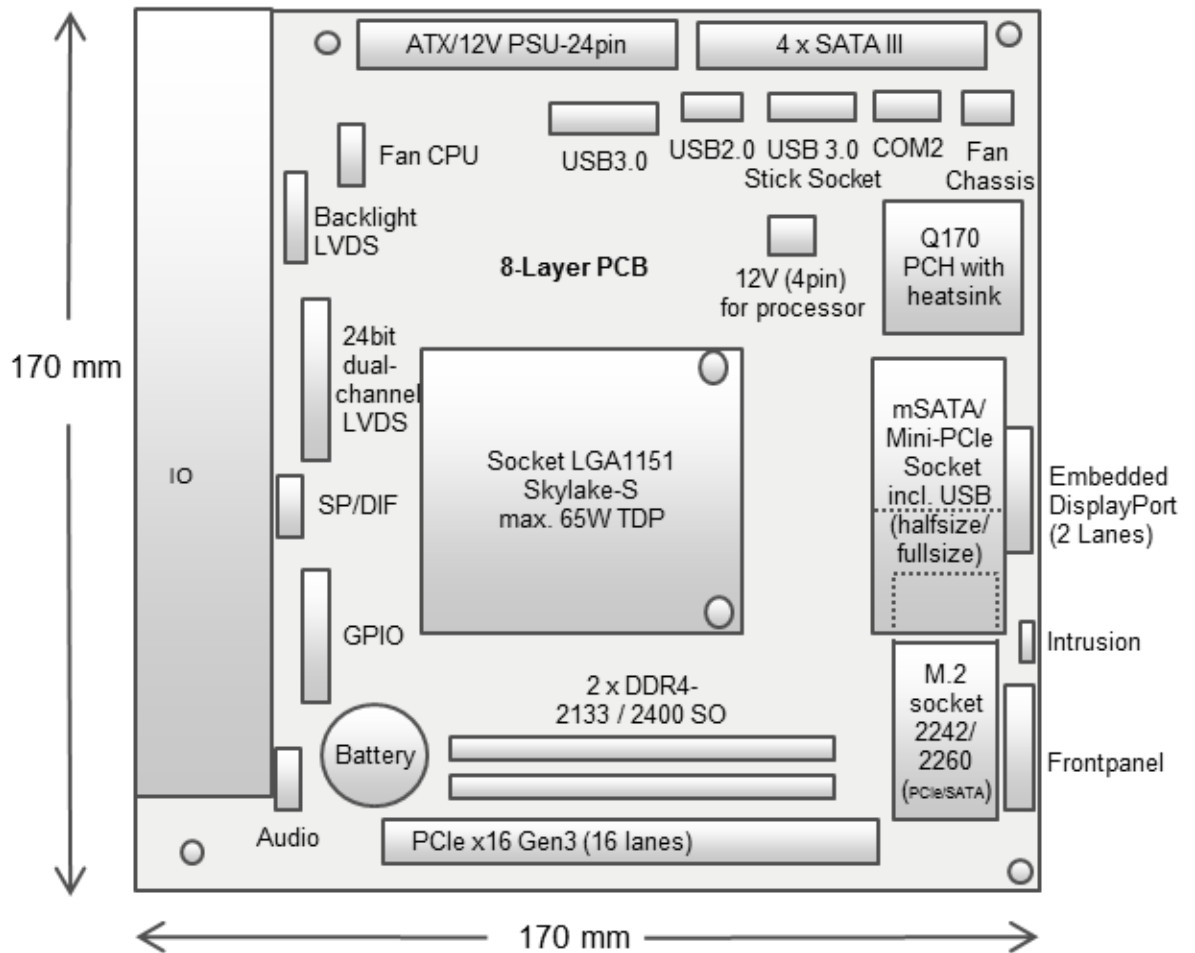
If a M.2 module @60mm is installed, only halfsize mSATA/Mini-PCIe module can be installed!

⁴ Alternative: Powered by 12V DC only. See TechNotes document for further details





External Connectors



Connector / Socket Diagram



Accessories

Mini PCIe to M.2 Adapter	D3436-S		
Serial Port Cable "ATX Slotbracket		S26361-F5000-K005	
Risercard 1x PCIe X4	D3318-A	S26361-F5000-R006	
M.2 Carrier Board	D3352-A2	S26361	

Further industrial products offered by Fujitsu

- Connectors
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- Touch Panels
- Thermal Printers
- Wireless Modules



24 Volt Kiosk Printers



Multi-Input Touch Panels

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