

Data Sheet

FUJITSU Mainboard D3446-S ATX

Industrial Series



Powered by the Intel® C236 Express Chipset supporting DDR4 2133 SDRAM Memory and 6th generation Intel® Core™ i3 / i5 / i7 and Xeon® E3-1200 V5 Processors (Socket LGA1151)

Designed for 24/7 continuous operation and enhanced operating temperature range

Chipset:

Intel® C236 Express Chipset

Processors:

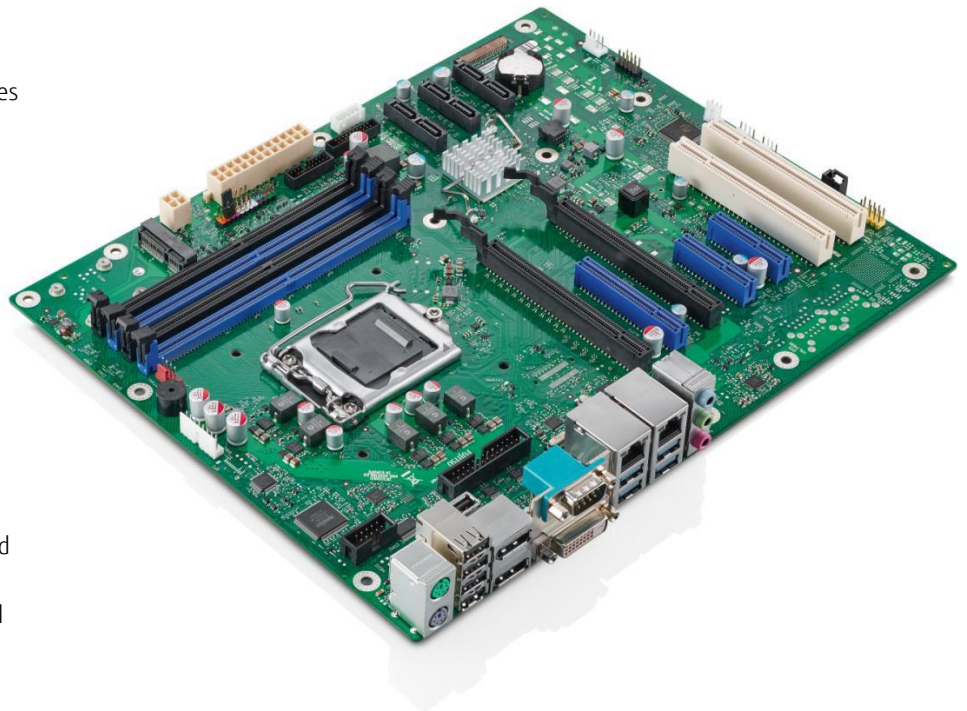
Intel® Xeon® E3-1200 V5 processor series
Intel® Core™ i7 / i5 / i3 – (6th gen.) processor series
Intel® Pentium® / Intel® Celeron® processors
Socket LGA1151 – up to 80W TDP

Memory:

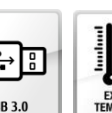
DDR4 2133 SDRAM (UDIMM)
ECC / Non-ECC

Product Features:

Intel® iAMT 11.0
Onboard support for Mini-PCI Express and mSATA
Onboard SATA-III incl. RAID support
Intel® HD Graphics; PCI Express Gen3
Multichannel Audio & Dual Intel GbE LAN onboard
USB 2.0/3.0 and USB 2.0 socket (stick) onboard
Trusted Platform Module V2.0 (Infineon) onboard
BIOS-POST/-Boot & OS – HW Watchdog onboard



(planned)



Features and benefits

Board Size	ATX: 9.6" x 12" (243.8 x 304.8 mm)
Chipset	Intel® C236 Express Chipset
Memory	4 DIMM Sockets DDR4, max. 64GB, Dual Channel, 2133MHz (CL15), UDIMM, 1.2V/2.5V, 288-pin, ECC (appropriate processor required) / non-ECC. Effective memory speed depends on installed processor
Processor	Intel® Xeon® E3-1200 V5 processor series Intel® Core™ i7 / i5 / i3 – (6th generation) processor series Intel® Pentium® / Intel® Celeron® processor series Socket LGA1151, max. 80W TDP
Power Specification	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 CPU Voltage Regulator, 5V / 2A Auxiliary Power required for USB Wake-Up from Save-to-RAM, Save-to-Disk

Power Supply Requirements

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

Source	Voltage	Min. PS Load	Max. Voltage Tolerance	Mainboard Capacitive Load	Max. Mainboard Current
Main Power Supply	+ 12V	0.05A	± 5 %	5.000µF	10A/15A ¹⁾
	- 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) Max. Cont. Current = 10A; max. Surge Current = 12A (<100sec) / 15A (<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 Carrier Board D3352-A1 (PCIe-based SSD modules, AHCI).
BIOS integrated HW Diagnostic Tool

Security Features

Recovery BIOS, System and BIOS Password, Boot Sequence Control, Serial-/ Parallel-/ USB- Port Access, Boot Sector Virus Warning, Write Protection for Flash BIOS, EraseDisk (BIOS Feature); TPM V2.0 (Infineon SLB 9665; TCG compliant).

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
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	X	X
MS Windows 7-64	X	X
MS Windows 8.1-64	X	X
MS Windows 10-64	X	X
MS Server 2008 R2	X	basic capability approved
MS Server 2012 R2	X	basic capability approved
MS Server 2016	planned	planned
Linux-32	X	
Linux-64	X	

Designed for Industrial Applications

Longlife components	Designed for 24/7 use in industrial applications
Tin-plated PCB	Improved durability of PCB surface
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 (depends on installed processor), DX12

Audio

Realtek ALC671, 5.1-channel, High Definition Audio Codec

LAN

Intel i219LM & i210AT with 10/100/1000 Mbit/s, iAMT 11 Support, Wake-on-LAN (WoL) by interesting Packets, Link Status Change and Magic Packet™, PXE Support, BIOS MAC Address Display, Teaming Support

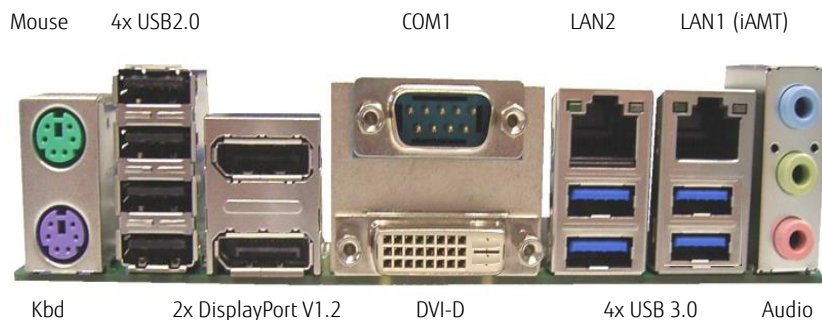
Drives

6 x SATA SATA-III; NCQ, AHCI, RAID 0/1/5/10
1 x mSATA (half-/fullsize); SATA-III (shared with one SATA port), incl. USB2.0

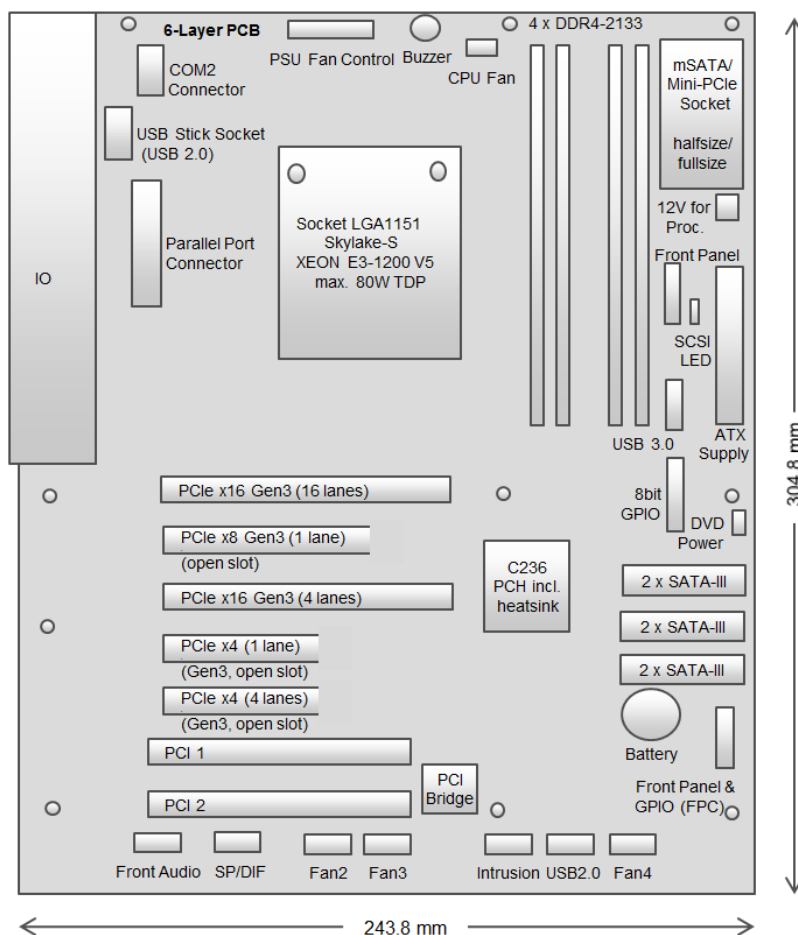
Features	D3446-S
Chipset / Board Size	iC236 / ATX
VGA ²⁾ / DVI-I / DVI-D / DP V1.2 / 2 nd DP V1.2 / LVDS	- / - / ✓ / ✓ / ✓ / -
Buzzer / int. Speaker Support / 5.1 Multichannel Audio	✓ / ✓ / ✓
Dual LAN Gbit / 100 Mbit / 10 Mbit / WoL / LAN Boot	✓ / ✓ / ✓ / ✓ / ✓
iAMT 11.0 / Intel Standard Manageability / DASH V1.1	✓ / ✓ / ✓
SATA / ATA / RAID / eSATA-Support / mSATA / M.2 SSD ³⁾	✓ / - / ✓ / ✓ / ✓ / ✓ / -
FireWire™ / USB 2.0 / USB 3.0	- / ✓ / ✓
FAN monitored & controlled PSU ⁴⁾ / CPU / AUX1 / AUX2 / AUX3	✓ / ✓ / ✓ / ✓ / ✓
TEMP monitored CPU / onboard sensors / external sensor	✓ / ✓ / -
Special Features	
Silent Fan / Silent Fan LT / System Guard / Silent Drives	✓ / - / ✓ / ✓
Recovery BIOS / Desk Update / Multi Boot	✓ / ✓ / ✓
HDD Password / HDD Encryption / EraseDisk / TPM	✓ / - / ✓ / ✓
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)	0°C - 60°C
Internal Connectors	
DIMM Sockets (DDR4-2133)	4
PCI Express x16 (16 Lanes, Gen3) / x16 (4 Lanes, Gen3)	1 / 1
PCI Express x8 (1 Lane Gen3)	1
PCI Express x4 (4 Lanes, Gen3) / x4 (1 Lane Gen3)	1 / 1
PCI Slots (32Bit, 33 MHz, Rev. 2.3) / Mini-PCI Express ⁵⁾	2 / 1
SATA-600 / SATA-300 / mSATA ⁵⁾ / M.2 SSD ³⁾	6 / - / 1 / -
S/PDIF (digital Audio) OUT / IN	1 / -
Frontpanel Audio (9-Pin, HD Audio & Legacy Audio AC97)	1
USB 2.0 channels / USB 3.0 channels / USB Stick (2.0)	2 / 2 / 1
Serial (COM2, RS232)	1
FAN PSU ⁴⁾ / CPU / AUX1 / AUX2 ⁷⁾ / AUX3	1 / 1 / 1 / 1 / 1
Intrusion (Case Open) / GPIO (8Bit) / SMBus (Case Temp.)	1 / 1 / -
Parallel Port Pin Connector ⁶⁾	1
ATX Power Supply (24 pin + 4 pin) / 12V-only Power Supply	✓ / -
External Connectors	
VGA Sub D ²⁾ / 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)	2
PS/2 Mouse / Keyboard	1 / 1
USB 2.0 / USB 3.0	4 / 4
Serial (COM1, RS232)	1
Parallel (EPP/ECP) ⁶⁾	-

- 1) Forced cooling required, see technical documentation for detailed requirements
- 2) VGA possible via optional converter board D3453 or DP-VGA-converter (dongle)
- 3) M.2 support possible via D3352 M.2 Carrier Board (for PCIe/AHCI-based SSD module)
- 4) Not supported by standard Power Supplies
- 5) mSATA / Mini-PCI Express = shared socket (halfsize / fullsize support)
- 6) External parallel port possible via optional connector cable
Note: Intel limitation → ECP-DMA-Mode no longer supported
- 7) One fan useable in PWM- or 3-pin mode (BIOS Option)

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:

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

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Fujitsu products, solutions & services

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- 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.

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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.

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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/
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Contact

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

Website: <http://ts.fujitsu.com>
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