

Data Sheet

FUJITSU Mainboard D3633-S Mini-ITX

Industrial Series

Powered by the Intel® Q370 Express Chipset supporting DDR4 2666 SDRAM Memory and Intel® 8th & 9th generation Core™ i3 / i5 / i7 / i9 Processors.
 Designed & approved for enhanced operating temperature range from 0°C to 60°C
 Designed & approved for 24/7 continuous operation



Chipset:

Intel® Q370 Express Chipset

Processors:

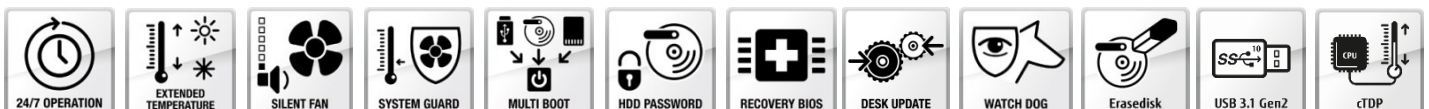
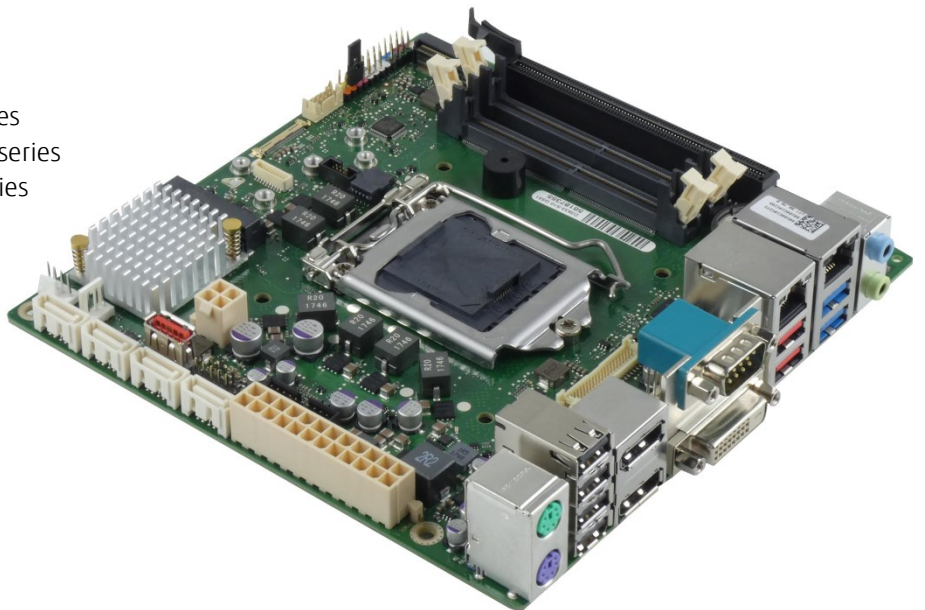
Intel® Core™ i7 / i5 / i3 (8th gen.) processor series
 Intel® Core™ i9 / i7 / i5 / i3 (9th gen.) processor series
 Intel® Pentium® / Intel® Celeron® processor series
 Socket LGA1151 – up to 95W TDP

Memory:

DDR4-2666, Dual Channel
 2 SO DIMM sockets, up to 32GB memory

Product Features:

- cTPD – Easy & flexible reduction of CPU TDP
- Supporting Intel AMT 12.0 / vPro
- PCI Express x16 (Gen.3)
- 2x Intel® GbE LAN (incl. Teaming)
- Intel® UHD Graphics (DX12)
- 1x DVI-D, 2x DP V1.2, eDP V1.4 and Dual Channel LVDS
- Intel® High Definition 5.1 Audio; Infineon TPM V2.0
- 8 Bit GPIO; 2 x COM port (incl. RS-422/RS-485 support)
- 6x USB 2.0, 4x USB 3.1 Gen1, 2x USB 3.1 Gen2, 1 x USB 3.1 Gen2 stick socket
- 4x SATA 6G/s incl. RAID support & M.2 (PCIe-based SSD modules 2242, 2260, or 2280)
- Mini-PCIe socket (halfsize/fullsize support)
- Dual Power Supply (ATX compliant or single 12V DC)
- 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® Q370 Express Chipset |
| Memory | 2 x SO-DIMM Socket (1.2V), max. 32GB, Dual Channel, DDR4 -2666 (CL19) / -2400 (CL17) / -2133 (CL15) SDRAM, unbuffered, non-ECC Effective memory speed depends on installed processor |
| Processor | Intel® Core™ i7 / i5 / i3 (8 th generation) processor series Intel® Core™ i9 / i7 / i5 / i3 (9 th generation) processor series ¹ Intel® Pentium® / Intel Celeron® processor series Socket LGA1151, max. 95W TDP (For details on supported processors please refer to OEM FTP Server) |
| Power Specification | ATX- 24 Pin / ATX- 20 Pin or single 12V DC 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, w/o SATA drives, w/o M.2 devices, w/o eDP or LVDS |

| Source ¹⁾ | Voltage | Min. PS Load | Max. Voltage Tolerance | Mainboard Capacitive Load | Max. Mainboard Current |
|-------------------------------|---------|--------------|------------------------|---------------------------|------------------------|
| ATX Power Supply (Multi Rail) | + 12V | 0.05A | ± 5 % | 1.300µF | 10A/18A ²⁾ |
| | - 12V | 0A | | -- | Not used |
| | + 5V | 0.2A | ± 5 % | 900µF | 4.5A |
| | + 3.3V | 0A | ± 5 % | 350µF | 0.5A |
| | + 5Vaux | 0A | +5 % / -3% | 330µF | 2.5A |
| Single 12V DC | +12V | 0A | ± 5 % | 1.300µF | 11A/19A ³⁾ |

1) ATX PSU (multi rail) or single 12V DC Supply

2) 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)

3) Max. load for single 12V DC supply: approx. +1A compared to multi rail supply

| | |
|-------------|---|
| BIOS | <p>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. No legacy OS support, no MBR installation (UEFI only due to Intel restrictions)</p> |
|-------------|---|

| | |
|--------------------------|--|
| Security Features | <p>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), TPM V2.0 (Infineon; TCG compliant)</p> |
|--------------------------|--|

¹ Appropriate BIOS version supporting CoffeeLake-Refresh processors required

| | | | |
|---|--|--|-------------------------------------|
| Special Features | cTDP | Easy & flexible reduction of CPU TDP (BIOS Setup) down to 10W TDP | |
| | 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 | 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 | |
| | Always On | Reliable power-on whenever voltage is connected | |
| | Never Off | Option to prevent the system from being shut down | |
| CSA / UL compliance | cTÜVus acc. IEC62368-1 | | |
| FCC compliance | FCC-B verified | | |
| Operating Systems | OS | "Runnable" | "Tested/Released by Fujitsu" |
| | MS Windows 10 RS3/RS4/RS5 | X | X |
| | Linux-64 | X | |
| Important Note: Legacy OS / MBR installation (DOS, MS Windows 7, ...) is not supported due to Intel restrictions | | | |
| Designed for Industrial Applications | Longlife components | Designed for 24/7 use in industrial applications | |
| | Revision control | Strict control and pre-announcement | |
| | Extended lifecycle up to 6 years | Mainboard available for more than five years | |
| | Industrial grade EMI immunity | | |
| | Enhanced operating temperature range (0°C-60°C) ² | | |
| Graphics | Intel® UHD Graphics, DX12 | | |
| | 2 x DisplayPort V1.2 & 1 x DVI-D | | |
| | Embedded Display Port V1.4 (2 lanes supported) | | |
| | Dual-Channel 24bit LVDS | | |
| Audio | Realtek ALC671, 5.1-channel, High Definition Audio Codec | | |
| TPM | TPM V2.0 (Infineon SLB9670SPI; TCG compliant) | | |
| LAN | Intel i219LM & i210AT with 10/100/1000 MBit/s, AMT 12.0 / vPro Support Wake-on-LAN (WoL) by interesting Packets, Link Status Change and Magic Packet™, PXE Support, BIOS MAC Address Display, Teaming Support | | |
| SATA Ports | 4 x Serial ATA III 600 Interface (up to 6Gbit/s), NCQ, AHCI, RAID 0/1/5/10 | | |
| M.2 Socket | 1 x M.2 Key-M for PCIe-based SSD NVME modules; 4 x PCIe Gen3 lanes Mechanical support for 2280, 2260 or 2242 modules ³ | | |
| Mini-PCIe Socket | 1 x Mini-PCIe supporting PCIe Gen3 & USB2.0 Mechanical support for halfsize or fullsize modules ² | | |
| GPIO Port | 8 Bit GPIO (Input/Output); WLAN LED support, WLAN enable/disable support 3.3V / 5V / 12V supply voltage output; SMBus controller PCA9554A | | |
| Legacy Ports | 1 x external COM port (RS-232) | | |
| | 1 x internal COM port (RS-232/RS-422/RS-485, pin header, 2mm pitch) | | |
| | 1 x PS/2 (mouse), 1 x PS/2 (keyboard) | | |

² Forced cooling required, see technical documentation for detailed requirements

³ M.2 / Mini-PCIe stuffing options: M.2-2280 only or M.2-2260/2242 + halfsize Mini-PCIe or M.2-2242 + fullsize Mini-PCIe

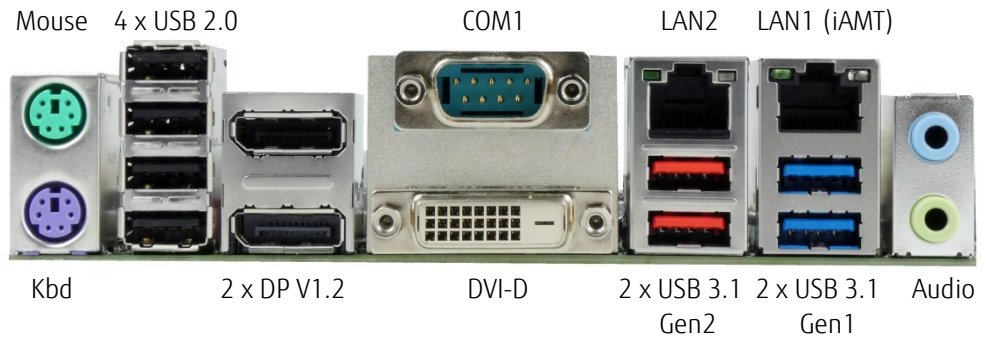
| | | |
|---|--|--|
| Features D3633-S | Chipset | iQ370 |
| | Board Size | Mini-ITX |
| | VGA / DVI-I / DVI-D / DP V1.2 / 2 nd DP V1.2 / LVDS / eDP | - / - / ✓ / ✓ / ✓ / ✓ / ✓ / ✓ / ✓ |
| | Buzzer / int. Speaker Support / 5.1 Multichannel Audio | ✓ / ✓ / ✓ |
| | Dual LAN Gbit / 100 Mbit / 10 Mbit / WoL / LAN Boot / Teaming | ✓ / ✓ / ✓ / ✓ / ✓ / ✓ / ✓ / ✓ |
| | iAMT 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 / CPU / AUX1 / AUX2 | - / ✓ / ✓ / ✓ / - |
| | TEMP monitored CPU / onboard sensors / external sensor | ✓ / ✓ / ✓ / - |
| Special Features D3633-S | Silent Fan / System Guard / cTDP | ✓ / ✓ / ✓ / ✓ |
| | Recovery BIOS / Desk Update / Multi Boot | ✓ / ✓ / ✓ / ✓ |
| | HDD Password / EraseDisk / TPM V2.0 | ✓ / ✓ / ✓ / ✓ |
| | BIOS POST- / BIOS Boot- / 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) ⁴ | 0°C – 60°C |
| | Internal Connectors D3633-S | SO DIMM Sockets (DDR4 2666) |
| PCI Express x16 (Gen3) / Support for lane split (8+8 or 8+4+4) | | 1 / ✓ |
| mSATA / Mini PCI Express Slot (halfsize / fullsize, incl.USB 2.0) | | - / 1 |
| SATA-600 / M.2 SSD 2280 (supports 2280/2260/2242, Key-M, PCIe/NVME) | | 4 / 1 |
| S/PDIF (digital Audio) OUT / IN | | 1 / 0 |
| Front Panel Audio (9-Pin, HD Audio) | | 1 |
| USB 2.0 / USB 3.1 (Gen1) / USB 3.1 (Gen2) / USB 3.1 (Gen2) Stick ⁵ | | 1 / 1 / - / 1 |
| Serial (COM2, RS-232 / RS-422 / RS-485) / Parallel Port Connector | | 1 / - |
| LVDS / LVDS Backlight (PWM controlled) / Embedded DisplayPort | | 1 / 1 / 1 |
| FAN PSU / CPU / AUX1 / AUX2 | | 0 / 1 / 1 / 0 |
| Intrusion (Case Open) / GPIO [Ⓜ] (8Bit) / SMBus (Case Temp.) | | 1 / 1 / - |
| Front Panel (Power Switch, Reset Switch, LEDs, Intel 10 pin compatible) | | 1 |
| ATX Power Supply (24 pin + 4 pin) / single 12V PSU ⁶ | | 1 / 1 |
| External Connectors D3633-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 3.1 Gen1 / USB 3.1 Gen2 | 4 / 2 / 2 |
| | Serial (COM1, RS232) | 1 |

⁴ Forced cooling required, see technical documentation for detailed requirements

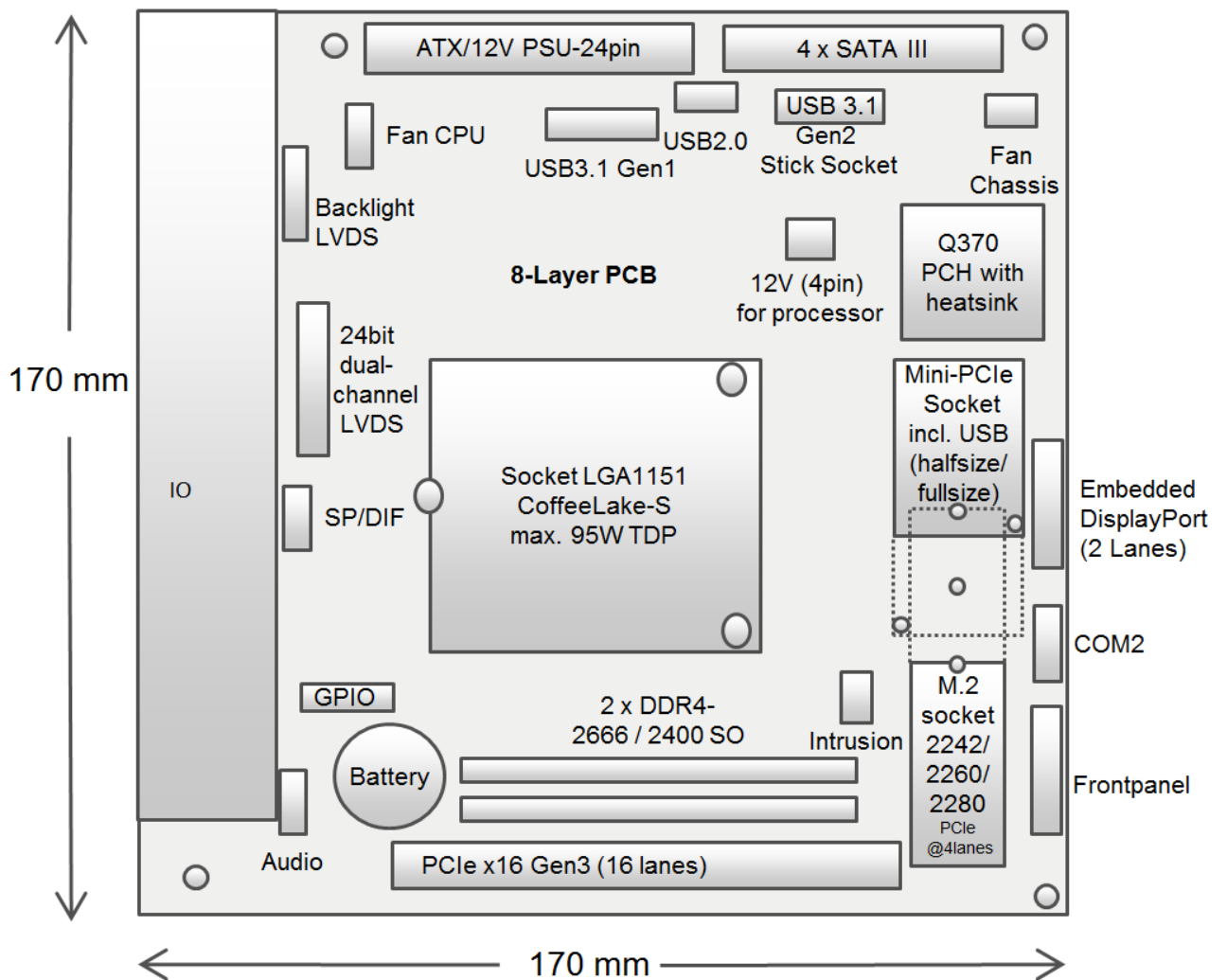
⁵ Each internal USB connector (pin header) provides two USB ports (except for USB stick socket)

⁶ Alternatives: Powered by ATX (multi rail) PSU or single 12V DC. See TechNotes document for further details

External Connectors

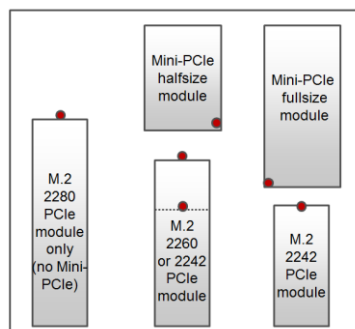


Connector / Socket Diagram



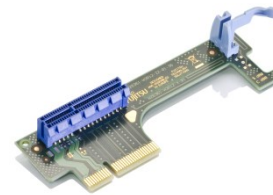
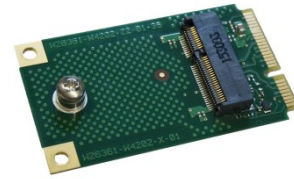
M.2 / Mini-PCIe stuffing options:

- M.2-2280 only or
- M.2-2260/2242 + halfsize Mini-PCIe or
- M.2-2242 + fullsize Mini-PCIe



Accessories

| | OEM Order Code |
|---|------------------|
| Mini PCIe to M.2 Adapter (D3436-S) | S26361-F5000-M3 |
| Serial Port Cable (fullsize slot bracket) | S26361-F5000-K10 |
| Risercard 1x PCIe x4 (D3318-A) | S26361-F5000-R6 |
| SMARTCASE S720 Chassis Kit | S26361-F5000-J3 |



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>
2019-04-02

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