Data Sheet
FUJITSU Mainboard D3003-S Mini-ITX
Industrial Series

AMD Embedded G-Series Platform for DDR3 1333/1066 SDRAM Memory (SO-DIMM) and AMD FT1 Mobile Processor ("eOntario")

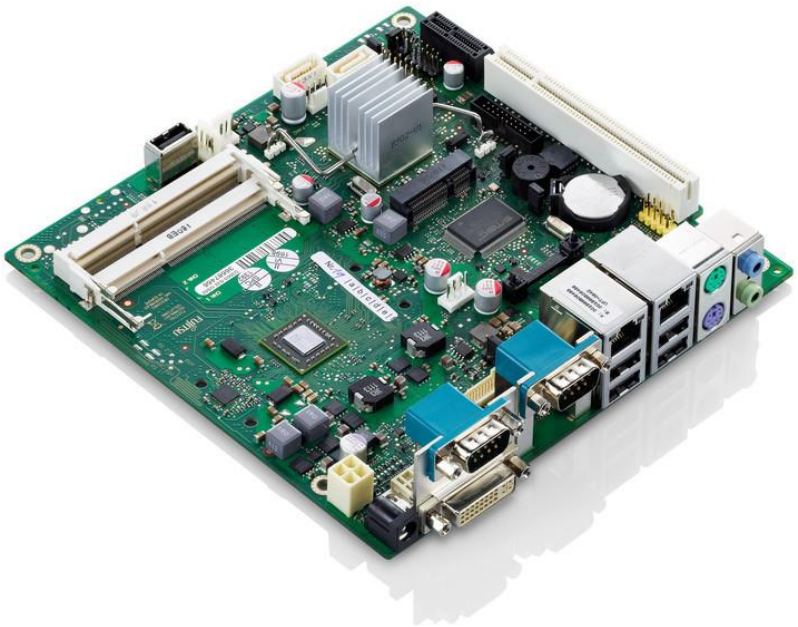
Enhanced operating temperature range from 0°C to 60°C

Chipset:
AMD A55E Controller Hub

Processors:
D3003-S1: AMD Single-Core T44R (1.2GHz/9W)
D3003-S2: AMD Dual-Core T56N (1.65GHz/18W)
D3003-S3: AMD Dual-Core T56N (1.65GHz/18W)

Memory:
DDR3 1333/1066 SDRAM (SO-DIMM)

Product Features:
AMD Radeon integrated graphics on board; VGA, DVI, DisplayPort and Dual Channel LVDS support
HD Audio onboard
Dual GbE LAN onboard
Serial ATA III RAID onboard
mSATA socket support (for Embedded OS) onboard
USB 2.0 onboard
8 Bit GPIO onboard
Infineon TPM V1.2 onboard
Designed for fanless operation
Mainboard ready for EuP
BIOS-Boot & OS – HW Watchdog onboard



Compatible with Windows®7 | SERIAL ATA | PCI EXPRESS | AMD Embedded Solutions | Erasedisk | Displayport | 31 EXTENDED LIFECYCLE | 24/7 OPERATION | EXTENDED TEMPERATURE | SILENT FAN | SYSTEM GUARD | FANLESS | SILENT DRIVES | MULTI BOOT | HDD PASSWORD | RECOVERY BIOS | DESK UPDATE | WATCH DOG

Features and benefits

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

Chipset AMD Embedded G-Series / A55E Controller Hub

Memory
2 x SO DIMM Socket (1.5V), max. 8GB, Single Channel
DDR3-1066 (CL7) / DDR3-1333 (CL9) SDRAM, unbuffered, no ECC
Note: Effective memory speed depends on installed processor!

Processor
AMD FT1 Mobile T44R Single Core Processor (1.2GHz; 9W) [1] or
AMD FT1 Mobile T56N Dual Core Processor (1.65GHz/18W) [1]

Power Specification
19-24V / 3A via DC-connector (rear I/O connector or onboard connector)
5V and 3.3V Supply Voltage on PCI Slot (PCI Rev. 2.3)
3.3V Auxiliary Supply Voltage on PCI Slot (Wake-Up Support)
Onboard CPU Core Voltage Regulator

Power Supply Requirements
for onboard components

Source	Voltage	Tolerance (max)	Mainboard Current (typ.)
DC-In	+ 19-24 V	+10% / -15 %	1 A

BIOS
AMI UEFI BIOS
modified and adapted by Fujitsu Technology Solutions; Recovery BIOS, SM-BIOS (DMI), BIOS Update via USB (stable user settings), Quick Boot, Logo Boot, Quiet Boot, Plug & Play, automatic DRAM and PCI Configuration, S.M.A.R.T. Supoort, Advanced Power Management, ACPI S3 / S4 (Save-to-RAM / Save-to-Disk), Wake on time from S5; configurable LVDS support; EraseDisk

Security Features
Recovery BIOS, System and BIOS Password, Boot Sequence Control for each drive, Serial Port Access Protection, TPM 1.2 (Infineon), Boot Sector Virus Warning, Write Protection for Flash BIOS, Harddisk Password incl. "Silent Password" option (no keyboard entry required).

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 drive
Recovery BIOS	Restores a corrupted BIOS
Desk Update	Simple driver update with Driver&Utilities DVD
Multi Boot	Comfortable boot from any boot device

Designed for Industrial Applications
Longlife components for 24 / 7 use in industrial applications
Revision control & Extended Lifetime (up to 5 years)
Enhanced operating temperature range (0°C - 60°C) [2]

Audio
Realtek ALC 663, 5.1-channel, High Definition Audio

LAN
Realtek RTL 8111E, 10/100/1000 Ethernet Controller, PXE- & WoL Support, Teaming Support

Miscellaneous
- Board Support Package (BSP) for Windows XP embedded
- Evaluation BSP for Embedded Linux (emlix)

External Connectors

COM1 COM2 LAN1 LAN2 Mouse

DC-In DVI-I DisplayPort(-S2 only) 2x USB 2x USB Kbd Audio

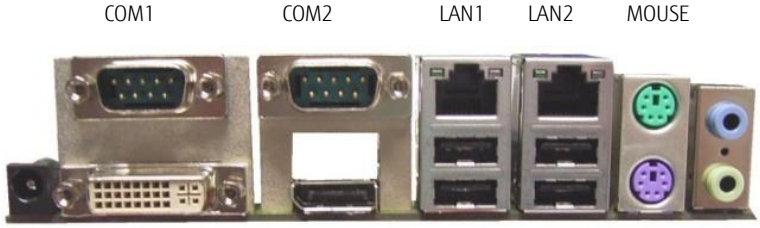
Mainboard Versions

	Processor	Graphics	LVDS	DisplayPort
D3003-S1	T44R SingleCore	Radeon HD6250	24Bit DualChannel	--
D3003-S2	T56N DualCore	Radeon HD6320	--	yes
D3003-S3	T56N DualCore	Radeon HD6320	24Bit DualChannel	--

Features	D3003-S
Chipset	AMD A55E FCH
Board Size	Mini-ITX
VGA [3] / DVI / DisplayPort [1] / LVDS / HDMI [3]	✓ / ✓ / ✓ / ✓ / ✓
Stereo Audio / Multichannel Audio	✓ / -
Buzzer / int. Speaker Support	✓ / -
Dual LAN Gbit / 100 Mbit / 10 Mbit	✓ / ✓ / ✓
LAN ASF / AoL / WoL / Boot	- / - / ✓ / ✓
SATA / ATA / RAID / mSATA	✓ / - / ✓ / ✓
FireWire™ / USB 2.0	- / ✓
FAN monitored & controlled CPU / AUX1 / AUX2	✓ / ✓ / -
TEMP monitored CPU / ONB1 / ONB2 / OFFB	✓ / ✓ / ✓ / ✓ / -
Special Features	
Silent Fan / Silent Fan LT / System Guard / Silent Drives	✓ / - / ✓ / ✓
Recovery BIOS / Desk Update / Multi Boot	✓ / ✓ / ✓
HDD Password / EraseDisk	✓ / ✓
Boot Logo Option	✓
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)	0°C – 60°C
Internal Connectors	
DIMM Sockets (DDR3 1333/1066, SO-DIMM)	2
PCI Express x16 Slot for Graphics Card	-
PCI Express x1 Slot (requires riser card)	1
PCI Slot (32Bit, 33 MHz, Rev. 2.3)	1
Mini PCI Express Slot	-
SATA (600) / ATA / Floppy / CF Card / mSATA	2 / - / - / - / 1
S/PDIF OUT / S/PDIF IN / CD Audio Input	1 / - / -
Frontpanel Audio (9-Pin) AC'97 / Azalia [4]	- / 1
USB 2.0 channels / USB 3.0 channels	4 / -
Specific socket for internal USB stick	1
Serial (FIFO, 16550 compatible = COM2) [6]	1
FAN [5] CPU / System (AUX1) / System (AUX2)	1 / 1 / -
SMBus (Case Temperature) / Intrusion (Case Open)	- / 1
LVDS Dual Channel / Backlight Inverter [1]	1 / 1
Feature Connector (8 Bit General Purpose I/O)	1
Frontpanel (Power Switch, LEDs, Intel 10 pin header)	1
Onboard Power Output (+5V/2A, +12V/2A) for drives	1
Onboard (internal input) DC-In 19-24V / 3A	1
Power 20 pin (ATX) / 4 pin (12V processor supply)	- / -
External Connectors	
VGA Sub D [3] / DVI-I / HDMI [3] / DisplayPort [1]	- / 1 / - / 1
Audio In / Line out (or driver configuration)	1 / 1
LAN (RJ-45)	2
PS/2 Mouse / Keyboard	1 / 1
USB (2.0, ~480MBit/s)	4
Serial (RS232, FIFO, 16550 compatible) [6]	2
DC-IN (external input) 19-24V / 3A	1

1) See "Mainboard Versions" overview for stuffing details
2) Forced cooling required, see technical documentation for detailed requirements
3) Via optional DVI-I / VGA interface connector resp. DVI-I / HDMI interface connector
4) Support for AC´97 audio frontpanel possible via BIOS Setup option
5) CPU fan = 4 pin PWM, system fan = 4 pin PWM or 3 pin (selectable via BIOS Setup)
6) COM2 external and COM2 internal cannot be used simultaneously

External Connectors



Connector / Socket Diagram

(picture not yet available)

Further industrial products offered by Fujitsu

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24 Volt Kiosk Printers

Multi-Input Touch Panels

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