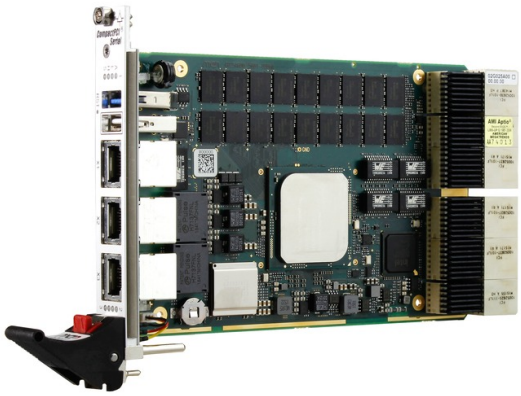
G25A

Intel Xeon D CPU Board

3U CompactPCI Serial

- *Intel Xeon D-1500 (Broadwell DE)*
- *Up to 16 cores*
- *Up to 32 GB DDR4 DRAM soldered, ECC*
- *2 10 Gb Ethernet, 1 Gb Ethernet, 1 USB 3.0, 1 RS232 for configuration*
- *4 HP system master and peripheral slot*
- *PICMG CPCI-S.0 CompactPCI Serial*
- *microSD card slot*
- *Standard rear I/O: 28 PCIe lanes, 2 USB 3.0, 6 SATA, 4 Gb Ethernet*
- *VGA, RS232, RS422/485 and USB 3.0 available on special I/O board*
- *Built-in Intel VT hardware virtualization*
- *Trusted Platform Module (TPM)*



High Performance for Virtualization Applications

The G25A is a high-performance multicore CPU platform based on Intel's Xeon D-1500 System-on-a-Chip (SoC). Paired with I/O cards, the G25A can be ideally used for transferring data from and to storage media, the Internet via LTE, wireless, copper or optical Ethernet. Its up to 16 processor cores and built in Intel® VT-d and VT-x support make the board ideally suited for virtualization applications.
The G25A offers high data bandwidth on both the front and the rear I/O interfaces. Two 10 Gigabit Ethernet interfaces are available on RJ45 or M12 connectors at the front, for example.
USB 3.0, SATA revision 3.x, PCI Express 3.0 and Gigabit Ethernet interfaces on front and rear complement the I/O possibilities of the board.

Ruggedized Memory and Mass Storage

The memory configuration of the G25A includes a state-of-the-art fast DDR4 DRAM with ECC which is soldered to the board to guarantee optimum shock and vibration resistance. A microSD card device offers space for user applications or as a local boot medium.

System Security and Board Management

For system security, a Trusted Platform Module is assembled on the board. A board management controller provides thermal supervision of the processor and a watchdog for the operating system.

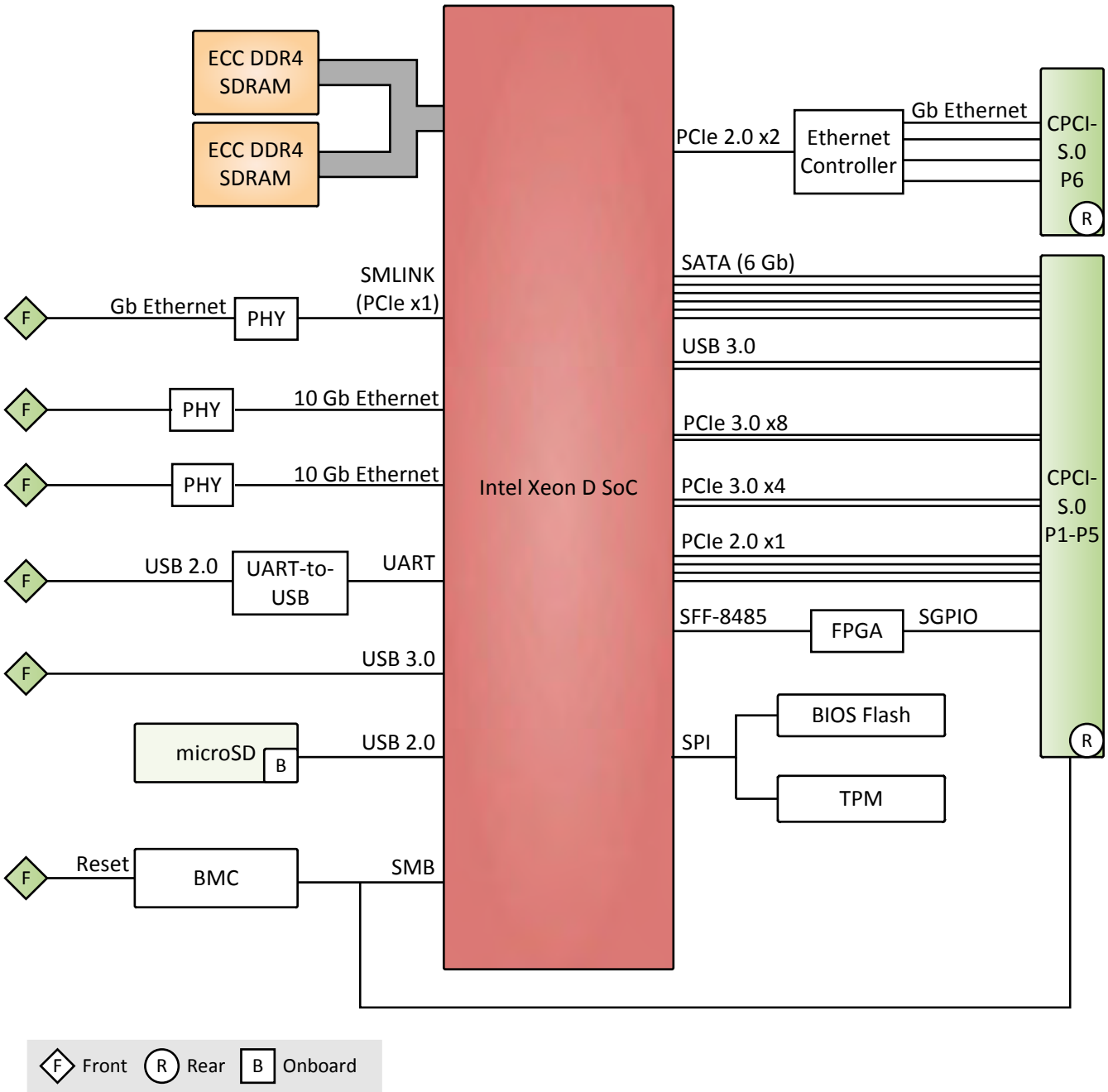
Perfect for Embedded and Harsh Environments

The G25A operates in Windows and Linux environments as well as under real-time operating systems that support Intel's multi-core architecture.
The G25A comes with a tailored heat sink within 4 HP height. All components are soldered for protection against shock and vibration according to applicable DIN, EN or IEC industry standards. The G25A is also ready for coating so that it can be used in humid and dusty environments and has a guaranteed minimum standard availability of 7 years.

G229 I/O Extension Board

The G229 offers one m.2 slot, three USB 3.0 interfaces, one RS232 interface, one RS422/485 interface, one VGA via PCI Express Mini card and up to three flexible slots for two additional RS232 or RS422/485 interfaces. It is combined with the G25A to form a space-saving solution with a bigger heat sink.

Data Sheet


ECC DDR4 SDRAM
ECC DDR4 SDRAM
Intel Xeon D SoC
PCIe 2.0 x2
Ethernet Controller
Gb Ethernet
CPCI-S.0 P6
R
SATA (6 Gb)
USB 3.0
PCIe 3.0 x8
PCIe 3.0 x4
PCIe 2.0 x1
CPCI-S.0 P1-P5
R
SFF-8485
FPGA
SGPIO
SPI
BIOS Flash
TPM
SMLINK (PCIe x1)
F
Gb Ethernet
PHY
F
PHY
10 Gb Ethernet
F
PHY
10 Gb Ethernet
F
USB 2.0
UART-to-USB
UART
F
USB 3.0
microSD
B
USB 2.0
F
Reset
BMC
SMB
F Front
R Rear
B Onboard

Diagram

CPU

- The following CPU types are available:
  - Intel Xeon D-1539, 8 Cores
  - Intel Xeon D-1577, 16 Cores
  - Intel Pentium D-1519, Quad Core
- Intel Virtualization Technology (Intel VT)
  - VT-d
  - VT-x
- Intel Turbo Boost Technology
- Intel Hyper-Threading Technology

Security

- Trusted Platform Module (TPM 2.0)

Memory

- System Memory
  - Soldered DDR4, ECC support
  - 8 GB, 16 GB, or 32 GB
- Boot Flash
  - 16 MB

Mass Storage

- The following mass storage device can be assembled:
  - microSD card

Front Interfaces

- USB
  - One Series A connector, USB 3.0
  - One configuration port implemented as a USB 2.0 device interface
- Ethernet
  - Two RJ45 connectors, 10GBASE-T, or
  - Two 8-pin M12 connectors, X-coded, 10GBASE-T
  - One RJ45 connector, 1000BASE-T, or
  - One 8-pin M12 connector, X-coded, 1000BASE-T
  - Two link and activity LEDs per Ethernet channel
- Status LED
- Hot-plug LED
- Reset button

Rear Interfaces

- SATA
  - Six channels, SATA Revision 3.x, RAID level 0/1/5/10 support
- USB
  - Two channels, USB 3.0
- Ethernet
  - Four channels, 1000BASE-T
- PCI Express
  - Four x1 links, PCIe 2.x
  - Two x4 links, PCIe 3.x
  - Two x8 links, PCIe 3.x

G229 Peripheral Board

- Mass Storage
  - m.2 disk
- Graphics
  - None, or
  - VGA PCI Express MiniCard MPX-750, operating temperature 0°C to +40°C instead of one legacy serial I/O interface
- USB
  - Three Series A connectors, USB 3.0
- RS232
  - D-Sub connector at front panel
  - Handshake lines: RTS, CTS
- RS422/485
  - D-Sub connector at front panel
  - Full duplex
- Legacy serial I/O
  - None, or
  - Up to three interfaces via SA-Adapters:
  - RS232, not optically isolated, -40..+85°C screened, conformal coating
  - RS232, optically isolated, -40..+85°C screened, conformal coating
  - RS422/485, full duplex, optically isolated, -50..+85°C screened, conformal coating
- Contact MEN's sales team for ordering information

Supervision and Control

- Board controller
- Watchdog timer
- Temperature measurement
- Real-time clock with supercapacitor or battery backup

Backplane Standard

- Compliance with CompactPCI Serial PICMG CPCI-S.0 Specification
- System or peripheral slot

Electrical Specifications

- Supply voltage
  - +12 V (9.5 to 15.5 V)
- Power consumption
  - 4.5 A typ, 6 A max. (depending on CPU and board configuration)

Mechanical Specifications

- Dimensions
  - 3U, 4 HP, or
  - 3U, 8 HP, or
  - 3U, 12 HP together with G229 peripheral board
- Weight: 228 g (model 02G025A00 without heat sink)

Environmental Specifications

- Temperature range (operation)
  - EN 50155 class T1, T2, T3 or TX
  - Airflow 1.5 m/s
  - Depends on system configuration (CPU, hard disk, heat sink...)
- Temperature range (storage): -40°C to +85°C
- Cooling concept
  - Air-cooled
  - Conduction-cooled in MEN CCA frame
- Humidity: EN 60068-2-30, EN 50155
- Altitude: -300 m to +2000 m
- Shock: EN 50155 category 1 class B
- Vibration: EN 50155 category 1 class B
- Conformal coating; optional

Reliability

- MTBF: 311 585 h @ 40°C according to IEC/TR 62380 (RDF2000) (model 02G025A00)

Safety

- Electrical Safety
  - EN 62368-1 (former EN 60950-1)
- Flammability
  - UL 94V-0

EMC

- EN 55022 class B, EN 50121-3-2 (radiated and conducted emission)
- EN 55024, EN 50121-3-2 (immunity)

Software Support

- Windows
- Linux
- For more information on supported operating system versions and drivers see Software.

BIOS

- AMI Aptio

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Up-to-date information, documentation and ordering information:
www.men.de/products/g25a/

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