CPC518

3U CPCI Serial Intel Xeon D-1559 / Xeon D-1539 / Intel Pentium D-1519 CPU Module

Features

- Intel Xeon D-1559 1.5 GHz 45 W, 12 cores, 12 MB cache
- Intel Xeon D-1539 1.6 GHz 35 W, 8 cores, 12 MB cache
- Intel Pentium D-1519 1.6 GHz 25 W, 4 cores, 6 MB cache
- RAM:DDR4-2133 16GB or 32 GB with ECC support
- Operating temperature range: from –40 to +85°C (commercial extended), from 0 to +70°C (commercial)
- Software compatibility: Linux 3.19; QNX 6.x; Microsoft Windows Embedded Standard 7; Microsoft Windows Embedded Standard 10
- MTBF: no less than 100 000 h

Overview

CPC518 CPU Module is implemented in 3U Compact PCI Serial format built on a single-chip processor Intel® Xeon® made with the 14-nm technology.

CPC518 is applied mainly in onboard heterogeneous systems operating under severe conditions and requiring multicore x86-compatible computer with a high capacity.

Technical Specifications

CPU
- Intel Xeon D-1559 1.5 GHz 45 W, 12 cores, 12 MB cache
- Intel Xeon D-1539 1.6 GHz 35 W, 8 cores, 12 MB cache
- Intel Pentium D-1519 1.5 GHz 35 W, 4 cores, 6 MB cache

RAM
- DDR4-2133 16 GB or 32 GB with ECC support

FRAM
- 32 KB, RAM 1 KB for storing BIOS Setup settings and serial number of the device

PCI-E Bus
- 24x PCI-E 3.0 lines (up to 8 GT/s):
  - 1x port x8 is connected via PCI Express Switch PEX8725 J1 and J2 CPCI Serial for support of the x8 FatPipe#1 and FatPipe#2 devices;
  - NTB for FatPipe#1;
  - 4x ports x4 are routed to the J4 CPCI Serial connector.
- 8x lines PCI-E 2.0 (up to 5 GT/s):
  - 2x ports x1 are routed to the J4 connector; support of up to 2 devices PCIE Gen 2.0 x1;
  - 2x ports x1 are routed to the mezzanine connector; support of up to 2 devices PCIE Gen 2.0 x1.

FLASH BIOS
- 128 MB SPI-Flash
- Modifiable in the system

Integrated SSD
- 16 GB SLC NAND
- SATA II interface

SATA interface
- One interface is used by an integrated SSD Storage device
- Five ports are routed to J3 CPCI Serial
- Support of RAID 0, 1, 5, 10

10 Gigabit Ethernet ports:
- 2x SFP+ channels (correspond to the SFF-8431 specification);
- routed to the front panel;
- supports the following standards:
  - ANSI INCITS 424-2007;
  - ANSI INCITS 364-2003;
  - ITU-T G.7041/Y.1303.

Gigabit Ethernet port
- Routed to the J6 CPCI Serial connector of the backplane

USB ports
- 4x USB 2.0 ports and 4x USB 3.0 ports

Display port:
- resolution up to 1920x1200 at 60 Hz, 16 bit;
- routed to the front panel;

Real-Time Clock

Watchdog Timer

Hardware Monitor for Control
- Voltage values of 7 power supply sources
- PCB temperature
- RAM temperature
- Current consumption

SGPIO interface
- Routed to the front panel;
- Support of the alarm in accordance with the SFF-8485 specification

SMBUS
- Compatible with the 2.0 specification
- Rate up to 100 Kb/sec

LEDs
- Module start diagnostics LED
- SATA drives addressing LED
- Temperature mode LED
- PCI Express interface state LED
- Backplane's Ethernet port state LED
- Two software-controlled (user) LEDs

Operating temperature range
- From –40 to +70°C (for operation in the extended commercial range)
- From 0 to +70°C (for operation in the commercial range)

Power supply and current consumption
- +5 V ±5%_STBY, up to 2A
- +12 V ±10%, up to 7A

Dimensions
- No more than 131.0 x 214.0 x 21.0 mm

Weight
- No more than 950.0 g

Moisture
- Up to 80%, non-condensing
- Up to 98%, non-condensing, for the /Coated version

Vibration / single shock resistance
- 2g/50g

Software compatibility
- Linux 3.19
- QNX 6.5.0
- Microsoft Windows Embedded Standard 7
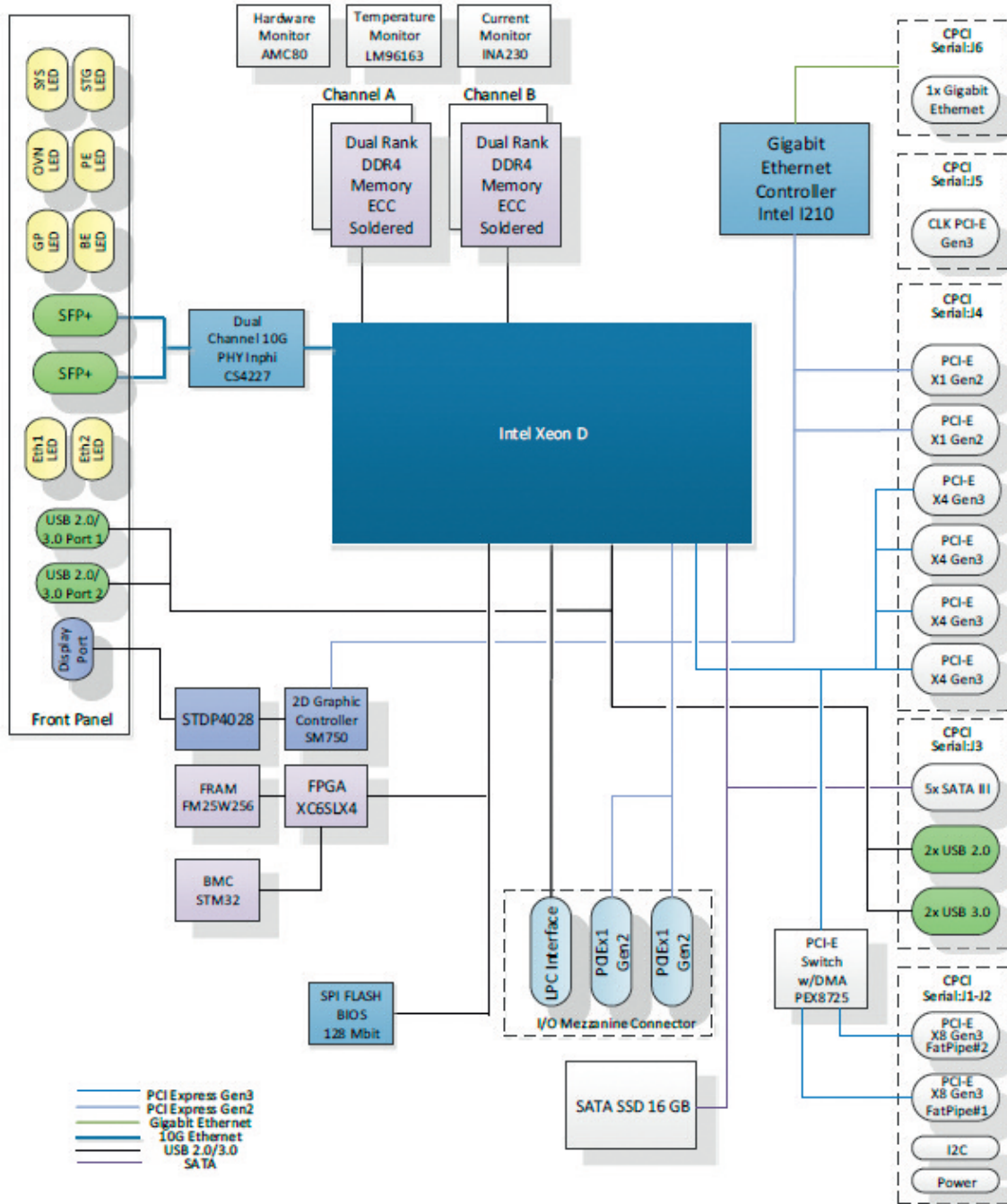- Microsoft Windows Embedded Standard 10

MTBF
- No less than 100 000 h

Board Layout

Ordering Information

CPC518 Configuration

Configurations:

Versions

CPC518-01	CPCI Serial 3U/4HP module, 12-core CPU Xeon D-1559 (45 W), 32 GB RAM, SSD 32 GB, for operation in the commercial temperature range from 0 to +70°C
CPC518-02	CPCI Serial 3U/4HP module, 8-core CPU Xeon D-1539 (35 W), 32 GB RAM, SSD 32 GB, for operation in the commercial temperature range from 0 to +70°C
CPC518-03	CPCI Serial 3U/4HP module, 4-core CPU Pentium D-1519 (25 W); 16 GB RAM, SSD 32 GB, for operation in the commercial temperature range from 0 to +70°C
CPC518-04	CPCI Serial 3U/4HP module, 12-core CPU Xeon D-1559 (45 W), 32 GB RAM, SSD 32 GB, for operation in the extended commercial temperature range from -40 to +70°C
CPC518-05	CPCI Serial 3U/4HP module, 8-core CPU Xeon D-1539 (35 W), 32 GB RAM, SSD 32 GB, for operation in the extended commercial temperature range from -40 to +70°C
CPC518-06	CPCI Serial 3U/4HP module, 4-core CPU Pentium D-1519 (25 W), 16 GB RAM, SSD 32 GB, for operation in the extended commercial temperature range from -40 to +70°C

All the versions of CPC518 require the use of a forced cooling with the flow rate of no less than 4.5 m/s.

Available options for CPC518:

\Coated	Version with conformal coating (available only on the versions made for operation in the extended commercial temperature range).
\LNX	Version with the OS Linux 3.19 preinstalled on integrated SSD.
\OEM	Version with a limited scope of supply.

Delivery checklist

1. CPC518 CPU Module
2. Packaging

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