ICES 252

Main Features

- Low Power COM Express CPU Module
- Onboard Intel® Atom™ Dual Core D510 1.66GHz Processor
- Intel® ICH8M Chipset
- Support DDR2 667 and 800 SO-DIMM up to 2GB

- Intel® PCI Express GbE 82574L
- Support 3 x SATA, 1 x IDE, 8 x USB2.0 for fast peripherals
- Micro COM Exrpress Type II supports up to 5 Express lanes, 32 bit PCI interface and one IDE and Gigabit LAN

Product Overview

ICES 252 is a COM Express module that features Intel® Atom™ D510 1.66GHz and ICH8M in small foot print. ICES 252 provides outstanding performance in the combination of high computing power and low thermal dissipation.

ICES 252 supports DDR2 667 SO-DIMM memory up to 2GB, and supports 3 x SATA, 1 x IDE, 8 x USB2.0 for fast peripherals.

ICES 252 is type 2 COM Express Module support up to 5 Express lanes, 32 bit PCI interface and one IDE and Gigabit LAN.

Specifications

CPU Support
- Onboard Intel® Atom™ Dual Core D510 1.66GHz Processor

Chipset
- Intel® ICH8M chipsets

Main Memory
- Support one un-buffered non-ECC DDR2 SO-DIMM 667 and 800 up to 2GB

BIOS
- AMI System BIOS
- SPI ROM
- Plug & Play support
- Advanced Power Management and Advanced Configuration & Power Interface support

Display
- Intel® D510 integrated graphics solution with dynamic video memory allocation
- Analog monitor with pixel resolution up to 2048 x 1536 @60Hz
- Support Single channel for 18 bit
- LFP (local flat panel) LVDS interface

On-board LAN
- Intel® PCI Express GbE 82574L x 1
- Support PXE LAN boot function
- Support Wake on LAN function

Other Interfaces
- One 3pin fan connector (90 degree, 12V)

Storage
- 3 x SATA
- 1 x IDE

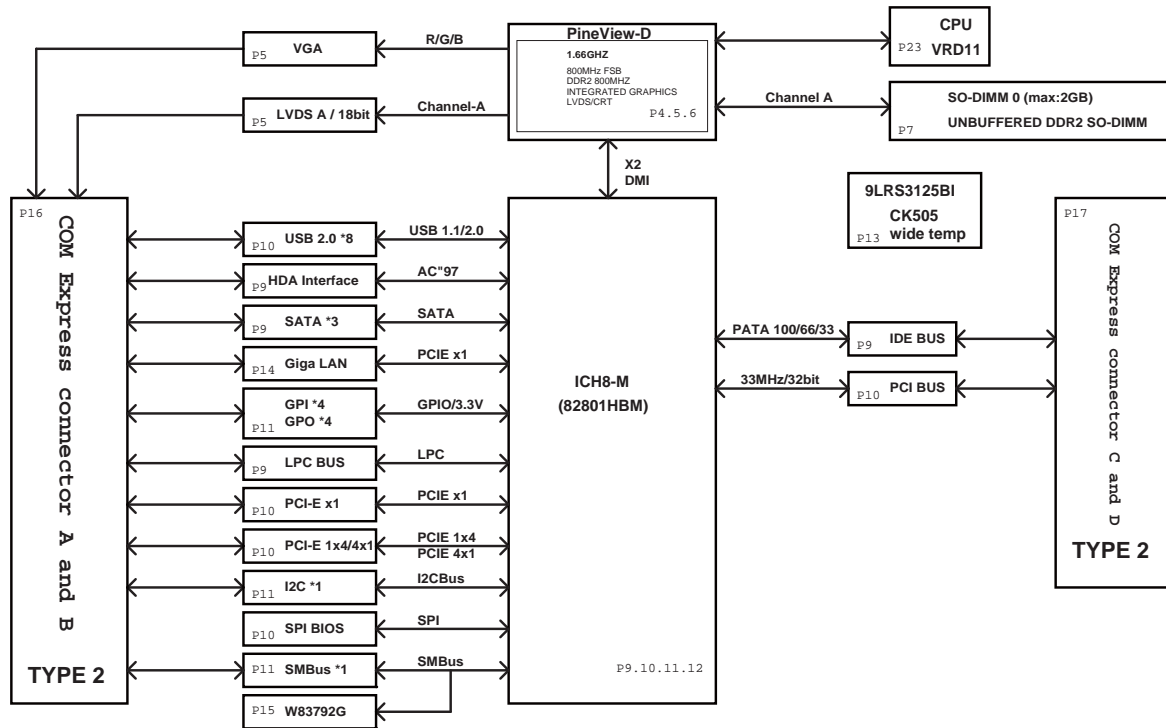### Interface
- Reset signal
- 8 GPIO lines (GPI 0~3 and GPO0~3), CMOS Level (0/3.3V)
- I2C Interface/SMbus Interface
- USB 2.0 x 8
- PATA

Extension
- One 32-bit PCI V2.3 interface
- One PCI express: 5 Lanes (via dip switch for 5 x 1 or 1 x 1+ 1 x 4)

Block Diagram

A block diagram with the following labeled blocks:

- P5 **VGA** — R/G/B —
- P5 **LVDS A / 18bit** — Channel-A —
- **PineView-D** 1.66GHZ / 800MHz FSB / DDR2 800MHZ / INTEGRATED GRAPHICS / LVDS/CRT — P4.5.6
- **CPU** P23 **VRD11**
- Channel A — **SO-DIMM 0 (max:2GB)** P7 **UNBUFFERED DDR2 SO-DIMM**
- X2 DMI
- P16 **COM Express connector A and B** **TYPE 2**
- P10 **USB 2.0 *8** — USB 1.1/2.0 —
- P9 **HDA Interface** — AC"97 —
- P9 **SATA *3** — SATA —
- P14 **Giga LAN** — PCIE x1 —
- P11 **GPI *4 GPO *4** — GPIO/3.3V —
- P9 **LPC BUS** — LPC —
- P10 **PCI-E x1** — PCIE x1 —
- P10 **PCI-E 1x4/4x1** — PCIE 1x4 / PCIE 4x1 —
- P11 **I2C *1** — I2CBus —
- P10 **SPI BIOS** — SPI —
- P11 **SMBus *1** — SMBus —
- P15 **W83792G**
- **ICH8-M (82801HBM)** P9.10.11.12
- **9LRS3125BI CK505** P13 **wide temp**
- PATA 100/66/33 — P9 **IDE BUS**
- 33MHz/32bit — P10 **PCI BUS**
- P17 **COM Express connector C and D** **TYPE 2**

Other Interfaces

• One 3pin fan connector (Reserved, 90 degree, 12V)

COM Express Connector

• AB connector
VGA/LVDS/8 x USB/HD Audio interface/2 x SATA/LAN/GPIO(3.3V)/LPC bus/
1 x PCIe x4/1 x PCIe x1/SMBus/I2C/SPI BIOS
• CD connector, IDE,PCI

Power Requirements

• +12Vdc, 3.3V battery, +5Vsb power input
• Support both AT and ATX power supply mode

Power Management

• ACPI 2.0 compliant with battery support. Also supports Suspend to RAM (S3)

System Monitor

• Monitoring of 4 voltages, 2 temperatures and 1 fan Speed
• 4 voltage (For +5V, +12V, Vcore, +3.3V)
• 2 Temperatures (CPU and one external Temperature Sensor)

Carrier Board

• ICEB 8050
• ICEB 9030-MR

Dimensions

• 95mm (W) x 95mm (L)

Environment

• Operating temperature: -20°C to 60°C
• Storage temperature: -20°C to 85°C
• Relative humidity:
10% to 97% (operating, non-condensing)
5% to 97% (non-operating, non-condensing)

Certifications

• CE approval
• FCC Class A

Ordering Information

• **ICES 252 (P/N: 10K00025200X0)**

Micro COM Exrpress Type II Module Atom™ D510 1.66GHz COM Express Module

NEXCOM   COM Express

We reserve the right to change specifications and product descriptions at any time without prior notice.   Last update: 05/25/2010