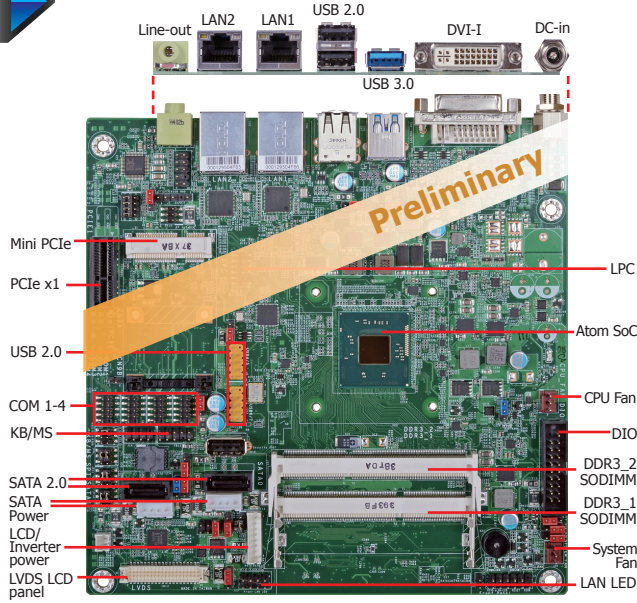




Intel® Atom™ E3800 Series Mini-ITX

BT101

Atom



Model Name	LAN	COM
BT101-xB	1	1 RS232/RS422/485, 1 RS232
BT101-xN	2	1 RS232/RS422/485, 3 RS232

Features

MEMORY	2 DDR3L SODIMM up to 8GB (-E45/-E27/-E26/-J00/-N30) 1 DDR3L SODIMM up to 4GB (-E25/-E15/-N07)
EXPANSION	1 PCIe x1 1 Mini PCIe 1 SIM
DISPLAY OUTPUTS	1 DVI-I, 1 LVDS
LAN	2 LAN
COM	4 COM
USB	7 USB: 1 USB 3.0, 6 USB 2.0
STORAGE	2 SATA 2.0
DIO	8-bit DIO

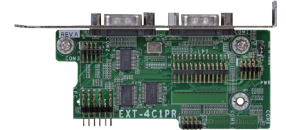
* The specifications on this datasheet refer to BT101-xN.



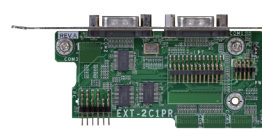
3 Modules for Additional COM/Parallel Ports (via the LPC connector)



EXT-6C1PR
- 6 COM, 1 Parallel



EXT-4C1PR
- 4 COM, 1 Parallel



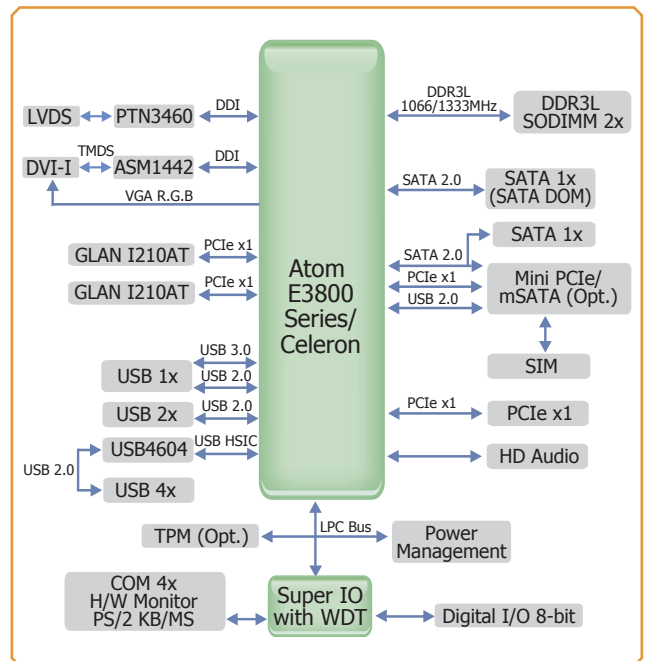
EXT-2C1PR
- 2 COM, 1 Parallel

Note: To support the additional COM/Parallel ports, please contact your sales representative for the LPC module and its BIOS.

Mechanical Drawing



Block Diagram



BT101

Specifications

PROCESSOR

- Intel® Atom™/Intel® Celeron® processors
 - BGA 1170 packaging technology
 - 22nm process technology
- Please refer to the Ordering Information below

SYSTEM MEMORY

- Two 204-pin DDR3L SODIMM sockets (-E45/-E27/-E26/-J00/-N30)
 - up to 8GB system memory
 - dual channel memory interface
- One 204-pin DDR3L SODIMM socket (-E25/-E15/-N07)
 - up to 4GB system memory
 - single channel memory interface
- Supports DDR3L 1333MHz (-E45/-E27/-J00/-N30/-N07)
- Supports DDR3L 1066MHz (-E26/-E25/-E15)
- DRAM device technologies: 1Gb, 2Gb and 4Gb DDR3L DRAM technologies are supported for x8 and x16 devices, unbuffered, non-ECC

EXPANSION SLOTS

- 1 PCIe x1 slot
- 1 Mini PCIe slot
 - Supports USB, PCIe and 3G signals
 - Supports mSATA (optional)
 - Supports half size or full size Mini PCIe card
- 1 SIM card socket

ONBOARD GRAPHICS FEATURES

- Intel® HD Graphics
- Display ports: DVI-I and LVDS
- DVI-I: 24-bit, resolution up to 2560x1600 @ 60Hz
- LVDS: NXP PTN3460, 24-bit, dual channel, resolution up to 1920x1200 @ 60Hz
- Supports hardware acceleration for DirectX 11, OCL 1.2, OGL 3.2, H.264, MPEG2, MVC, VC-1, WMV9 and VP8

ONBOARD AUDIO FEATURES

- Realtek ALC888 5.1-channel High Definition Audio
- S/PDIF audio interface

ONBOARD LAN FEATURES

- 2 Intel® I210AT PCI Express Gigabit Ethernet controllers
- Integrated 10/100/1000 transceiver
- Fully compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

SERIAL ATA INTERFACE

- 2 SATA 2.0 ports with data transfer rate up to 3Gb/s
 - SATA port 0 provides adequate space for SATA DOM
 - One multiplexed with mSATA (Mini PCIe) (optional)
- Integrated Advanced Host Controller Interface (AHCI) controller

TRUSTED PLATFORM MODULE (TPM) - optional

- Provides a Trusted PC for secure transactions
- Provides software license protection, enforcement and password protection

WATCHDOG TIMER

- Watchdog timeout programmable via software from 1 to 255 seconds

REAR PANEL I/O PORTS

- 1 12V DC-in jack (default) or 4-pin power connector (optional)
- 1 DVI-I port
- 2 RJ45 LAN ports
- 2 USB 2.0 ports
- 1 USB 3.0 port
- Line-out jack

Ordering Information

Model Name	Temperature	Features	Processors
BT101	- E	B	- E45
	B: 0°C to 60°C E: -20°C to 70°C T: -40°C to 85°C	B: 1 LAN, 2 COM N: 2 LAN, 4 COM	E45: Intel® Atom™ E3845, Quad Core, 2M Cache, 1.91GHz, 10W E27: Intel® Atom™ E3827, Dual Core, 1M Cache, 1.75GHz, 8W E26: Intel® Atom™ E3826, Dual Core, 1M Cache, 1.46GHz, 7W E25: Intel® Atom™ E3825, Dual Core, 1M Cache, 1.33GHz, 6W E15: Intel® Atom™ E3815, Single Core, 0.5M Cache, 1.46GHz, 5W J00: Intel® Celeron® J1900, Quad Core, 2M Cache, up to 2.42GHz, 10W N30: Intel® Celeron® N2930, Quad Core, 2M Cache, up to 2.16GHz, 7.5W N07: Intel® Celeron® N2807, Dual Core, 1M Cache, up to 2.16GHz, 4.3W

Packing List

- 1 BT101 motherboard
- 1 Serial ATA data with power cable
- 1 I/O shield
- 1 DVD
- 1 QR (Quick Reference)

I/O CONNECTORS

- 2 connectors for 4 external USB 2.0 ports; or 1 connector for 2 external USB 2.0 ports and 1 vertical USB 2.0/1.1 port (optional)
- 4 connectors for 4 external serial ports (2.0mm pitch)
 - 1 RS232/RS422/485 (RS232 and/or power)
 - 3 RS232
- 1 LVDS LCD panel connector
- 1 LCD/inverter power connector
- 1 8-bit DIO and/or power connector
- 1 front audio connector for line-out and mic-in jacks
- 1 S/PDIF connector
- 1 PS/2 connector for keyboard/mouse port
- 1 LPC connector
- 1 SMBus connector (optional)
- 1 SPI connector (optional)
- 1 LAN LED connector
- 2 Serial ATA connectors
- 2 Serial ATA power connectors
- 1 front panel connector
- 1 chassis intrusion connector
- 2 fan connectors

BIOS

- AMI BIOS
- 64Mbit SPI BIOS

ENERGY EFFICIENT DESIGN

- Supports ErP Lot6 power saving (optional)
- Supports ACPI
- System Power Management
- Wake-On-Events include:
 - Wake-On-USB/PS/2 KB/Mouse (optional)
 - Wake-On-LAN
 - RTC timer to power-on the system
- AC power failure recovery

DAMAGE FREE INTELLIGENCE

- Monitors CPU/system temperature and overheat alarm
- Monitors VCore/12V/5V/DDR voltages and failure alarm
- Monitors CPU/system fan speed and failure alarm
- Read back capability that displays temperature, voltage and fan speed

POWER CONSUMPTION

- TBD

OS SUPPORT

- Windows 7 Ultimate x86 & SP1 (32-bit)
- Windows 7 Ultimate x64 & SP1 (64-bit)
- Windows 8.1 Enterprise x86 (32-bit)
- Windows 8.1 Enterprise x64 (64-bit)

TEMPERATURE

- Operating (TBD)
 - : 0°C to 60°C - Celeron (Fanless)
 - : -20°C to 70°C - Atom (Fanless with air flow)
 - : -40°C to 85°C - Atom (with Fan)
- Storage: -40°C to 85°C

HUMIDITY

- 5% to 95%

DIMENSIONS

- Mini-ITX form factor
- 170mm (6.7") x 170mm (6.7")

Power Connector

