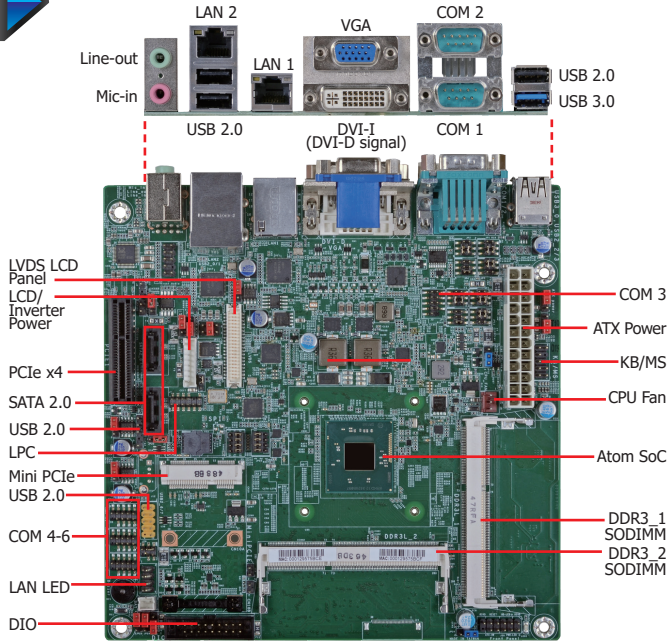




# BT100

Atom



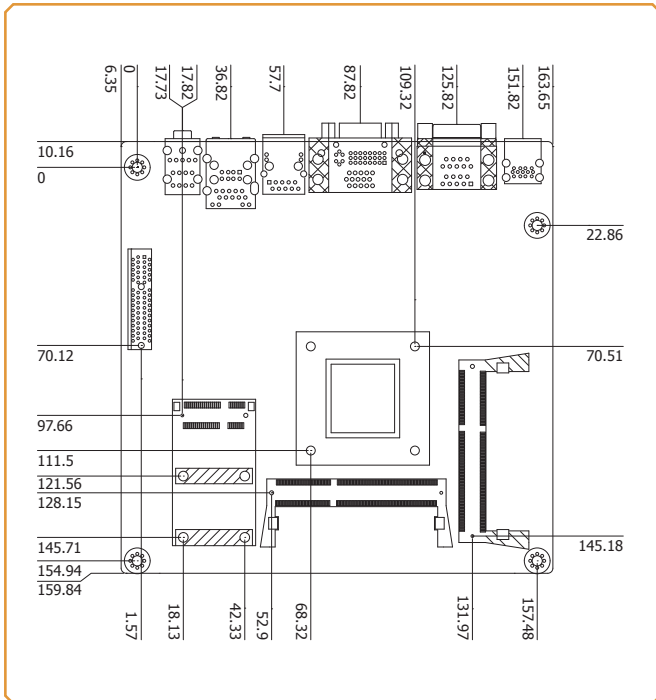
## Features

MEMORY	2 DDR3L SODIMM up to 8GB (-E45/-J00) 1 DDR3L SODIMM up to 4GB (-E15)
EXPANSION	1 PCIe x4 (x1 signal) 1 Mini PCIe
DISPLAY OUTPUTS	1 DVI-I (DVI-D signal), 1 VGA, 1 LVDS
LAN	2 LAN
COM	6 COM
USB	7 USB: 1 USB 3.0, 6 USB 2.0
STORAGE	2 SATA 2.0 or 1 SATA 2.0, 1 mSATA
DIO	8-bit DIO

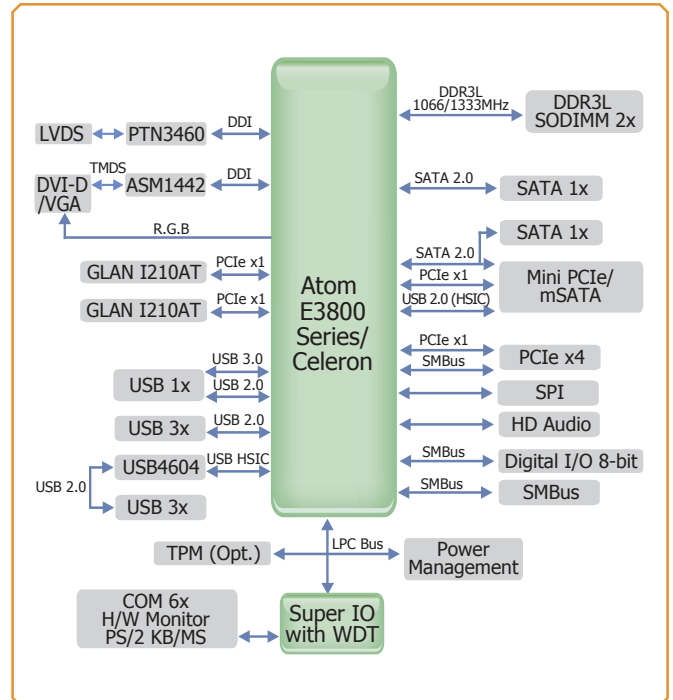
\* The specifications on this datasheet refer to BT100-xC.



## Mechanical Drawing



## Block Diagram



# BT100

## ► Specifications \* Optional and is not supported in standard model. Please contact your sales representative for more information.

### 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/-J00)
  - up to 8GB system memory
  - dual channel memory interface
- One 204-pin DDR3L SODIMM socket (-E15)
  - up to 4GB system memory
  - single channel memory interface
- Supports DDR3L 1333MHz (-E45/-J00)
- Supports DDR3L 1066MHz (-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 x4 slot
  - x1 signal
- 1 Mini PCIe slot
  - Supports USB and PCIe signals
  - Supports mSATA
  - Supports half size or full size Mini PCIe card

### ONBOARD GRAPHICS FEATURES

- Intel® HD Graphics
- Display ports: 1 DVI-D, 1 VGA, 1 LVDS
- DVI-D: resolution up to 1920x1080 @ 60Hz
- VGA: 24-bit, resolution up to 1920x1200 @ 60Hz
- LVDS: NXP PTN3460, 24-bit, dual channel, resolution up to 1920x1200 @ 60Hz
- Supports hardware acceleration for DirectX 11, OCL 1.2, OGL 4.0, H.264, MPEG2, MVC, VC-1, WMV9 and VP8 (supported version dependent on OS)

### 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
  - SATA port 1 multiplexed with mSATA (Mini PCIe)
- Integrated Advanced Host Controller Interface (AHCI) controller

### TRUSTED PLATFORM MODULE (TPM)\*

- 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

- 2 DB-9 serial ports
  - 1 RS232/422/485 (RS232 and/or power)
  - 1 RS232
- 1 DVI-I port (DVI-D signal)
- 1 VGA port
- 2 RJ45 LAN ports
- 3 USB 2.0 ports
- 1 USB 3.0 port
- Mic-in, Line-out jacks (default) or Mic-in, Line-in, Line-out jacks\*

### I/O CONNECTORS

- 2 connectors for 3 external USB 2.0 ports; or
- 1 connector for 2 external USB 2.0 ports and 1 vertical USB 2.0/1.1 port\*
- 4 connectors for 4 external serial ports (2.0mm pitch)
  - 1 RS232/422/485 (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\*
- 1 LAN LED connector
- 2 Serial ATA connectors
- 1 24-pin ATX power connector
- 1 front panel connector
- 1 chassis intrusion connector
- 1 fan connector

### BIOS

- AMI BIOS
- 64Mbit SPI BIOS

### ENERGY EFFICIENT DESIGN

- Supports ErP Lot6 power saving\*
- Supports ACPI
- System Power Management
- Wake-On-Events include:
  - Wake-On-USB/PS/2 KB/Mouse\*
  - 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/USB3 voltages and failure alarm
- Monitors CPU fan speed and failure alarm
- Read back capability that displays temperature, voltage and fan speed

### POWER CONSUMPTION

- BT100-TC-E45: 12.18W with E3845 at 1.91GHz and 2x 4GB DDR3L SODIMM

### 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)
- Windows 8.1 Embedded Pro x86 (32-bit)
- Windows 8.1 Embedded Pro x64 (64-bit)
- Windows 10 IoT LTSB (64bit)

### TEMPERATURE

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

### HUMIDITY

- 5% to 90%

### MTBF

- BT100: 355,337 hrs @ 25°C; 201,931 hrs @ 45°C ; 121,164 hrs @ 60°C
  - Calculation model: Telcordia Issue 2
  - Environment: GB, GC – Ground Benign, Controlled

### DIMENSIONS

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

### CERTIFICATION

- CE, FCC Class B, RoHS

## ► Ordering Information

Model Name	Processor	Memory	RS232	RS232/422/485	Power	Thermal Temperature
BT100-BC-E15	Intel® Atom™ E3815, Single Core, 0.5M Cache, 1.46GHz, 5W	1 SODIMM	4	2	24-pin ATX	Fanless 0°C to 60°C
BT100-BC-J00	Intel® Celeron® J1900, Quad Core, 2M Cache, 2GHz (2.42GHz), 10W	2 SODIMM	4	2	24-pin ATX	Fanless 0°C to 60°C
BT100-ED-E45	Intel® Atom™ E3845, Quad Core, 2M Cache, 1.91GHz, 10W	2 SODIMM	1	1	24-pin ATX	Fanless -20°C to 70°C
BT100-TC-E45	Intel® Atom™ E3845, Quad Core, 2M Cache, 1.91GHz, 10W	2 SODIMM	4	2	24-pin ATX	Fanless -40°C to 85°C

The following specifications will be available upon request. Please contact your sales representative for more information.

Model Name	Temperature	Features	Processors
BT100	-	E	D
	B: 0°C to 60°C E: -20°C to 70°C T: -40°C to 85°C	D: 2 LAN, 2 COM C: 2 LAN, 6 COM	E45: Intel® Atom™ E3845, Quad Core, 2M Cache, 1.91GHz, 10W E15: Intel® Atom™ E3815, Single Core, 0.5M Cache, 1.46GHz, 5W J00: Intel® Celeron® J1900, Quad Core, 2M Cache, 2GHz (2.42GHz), 10W

## ► Packing List

- 1 BT100 motherboard
- 1 Serial ATA data cable: 332-553001-005G
- 1 I/O shield: A49-BT1000-000G
- 1 Heat sink: A71-010026-000G

## ► Optional Items

- USB port cable (2.54mm): 332-253010-026G
- USB port cable (2.0mm): A81-001032-016G
- COM port cable: A81-015011-001G
- Serial ATA data cable: 332-553001-005G