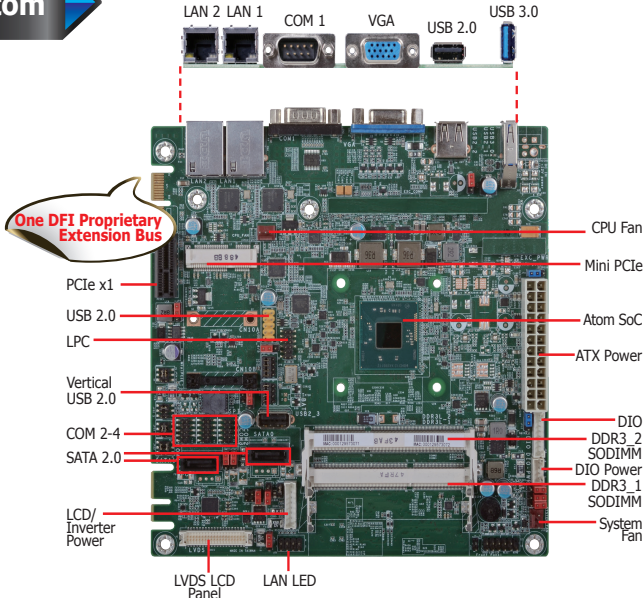




**Intel® Atom™ E3800 Series  
Mini-ITX**

**BT160**



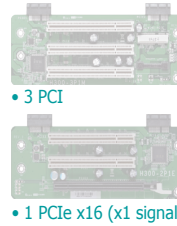
**Features**

MEMORY	2 DDR3L SODIMM up to 8GB (-E45/-E26/-J00)
EXPANSION	1 PCIe x1 1 Mini PCIe 1 DFI Proprietary Extension Bus
DISPLAY OUTPUTS	1 VGA, 1 LVDS
LAN	2 LAN
COM	4 COM
USB	5 USB: 1 USB 3.0, 4 USB 2.0
STORAGE	2 SATA 2.0 or 1 SATA 2.0, 1 mSATA
DIO	8-bit DIO



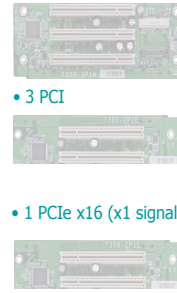
**5 Riser Cards for DFI Proprietary Extension Bus**

**H Series:**



- 3 PCI
- 1 PCIe x16 (x1 signal)

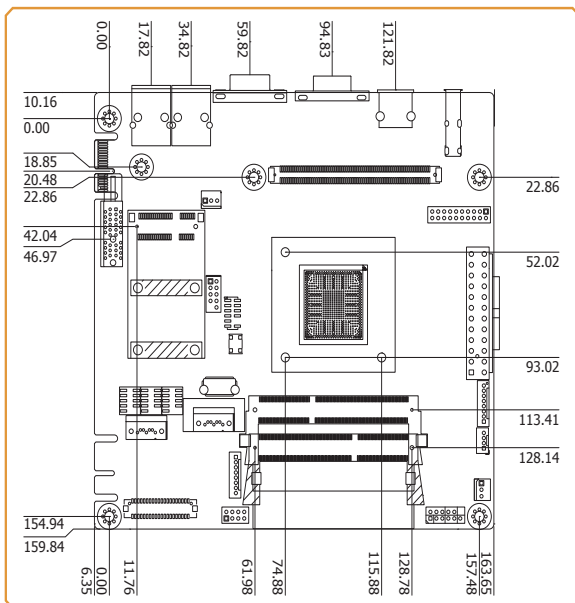
**T Series:**



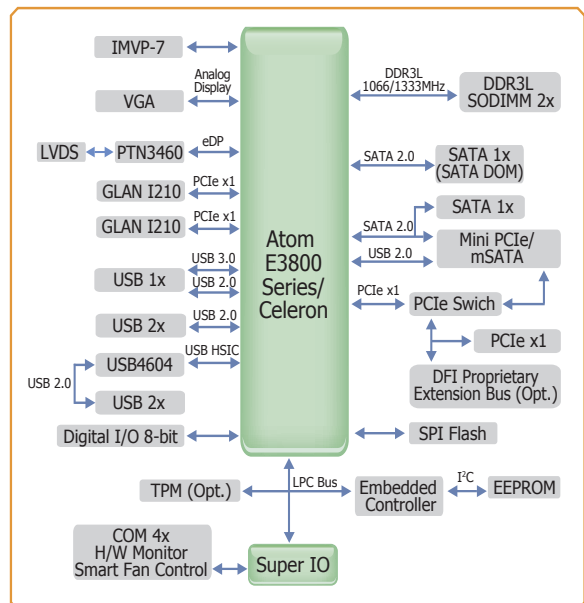
- 3 PCI
- 1 PCIe x16 (x1 signal)
- 1 PCIe x8 (x1 signal)



**Mechanical Drawing**



**Block Diagram**





# BT160

**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/-E26/-J00)
  - up to 8GB system memory
  - dual channel memory interface
- Supports DDR3L 1333MHz (-E45/-J00)
- Supports DDR3L 1066MHz (-E26)
- 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 and PCIe signals
  - Supports mSATA
  - Supports full size Mini PCIe card
- 1 DFI Proprietary Extension Bus for PCIe/PCI expansion

**ONBOARD GRAPHICS FEATURES**

- Intel® HD Graphics
- Display ports: 1 VGA, 1 LVDS
- VGA: 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 LAN FEATURES**

- 2 Intel® I210 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**

- 1 DB-9 RS232 serial port
- 1 DB-15 VGA port
- 2 RJ45 LAN ports
- 1 USB 2.0 port
- 1 USB 3.0 port

**I/O CONNECTORS**

- 1 connector for 2 external USB 2.0 ports
- 1 vertical USB 2.0/1.1 port
- 3 connectors for 3 external serial ports (2,0mm pitch)
  - 1 RS232/422/485 (RS232 and/or power)
  - 2 RS232
- 1 LVDS LCD panel connector
- 1 LCD/inverter power connector
- 1 8-bit Digital I/O connector
- 1 Digital I/O power connector
- 1 LAN LED connector
- 1 LPC connector
- 2 Serial ATA connectors
- 1 24-pin ATX power connector
- 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\*
- Supports ACPI
- System Power Management
- Wake-On-Events include:
  - Wake-On-USB KB/Mouse\*
  - Wake-On-LAN
  - Wake-On-PS2 KB/MS\*
  - 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**

- BT160-BN-E45: 10.75W with E3845 at 1.91GHz and 2x 2GB DDR3L SODIMM

**OS SUPPORT**

- Windows 7 Ultimate x86 & SP1 (32-bit)
  - Windows 7 Ultimate x64 & SP1 (64-bit)
  - Windows 8 Enterprise x86 (32-bit)
  - Windows 8 Enterprise x64 (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)
- Note: Windows 10 will be available upon request. Please contact DFI for more information.

**TEMPERATURE**

- Operating: 0°C to 60°C
- Storage: -40°C to 85°C

**HUMIDITY**

- 5% to 90%

**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
<b>BT160-BN-E26</b>	Intel® Atom™ E3826, Dual Core, 1M Cache, 1.46GHz, 7W	2 SODIMM	3	1	24-pin ATX	Fanless	0°C to 60°C
<b>BT160-BN-E45</b>	Intel® Atom™ E3845, Quad Core, 2M Cache, 1.91GHz, 10W	2 SODIMM	3	1	24-pin ATX	Fanless	0°C to 60°C
<b>BT160-BN-J00</b>	Intel® Celeron® J1900, Quad Core, 2M Cache, 2GHz (2.42GHz), 10W	2 SODIMM	3	1	24-pin ATX	Fanless	0°C to 60°C

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

Model Name	Temperature	Processors
<b>BT160</b>	- <b>B</b> B: 0°C to 60°C	- <b>E45</b> E45: Intel® Atom™ E3845, Quad Core, 2M Cache, 1.91GHz, 10W E26: Intel® Atom™ E3826, Dual Core, 1M Cache, 1.46GHz, 7W J00: Intel® Celeron® J1900, Quad Core, 2M Cache, 2GHz (2.42GHz), 10W

**Packing List**

- 1 BT160 motherboard
- 1 Serial ATA data cable: 332-553001-005G
- 1 DVD
- 1 Heat sink: A71-010026-000G

**Optional Items**

- USB port cable: 332-253010-026G
- COM port cable: A81-015001-001G
- Serial ATA data cable: 332-553001-005G

## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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