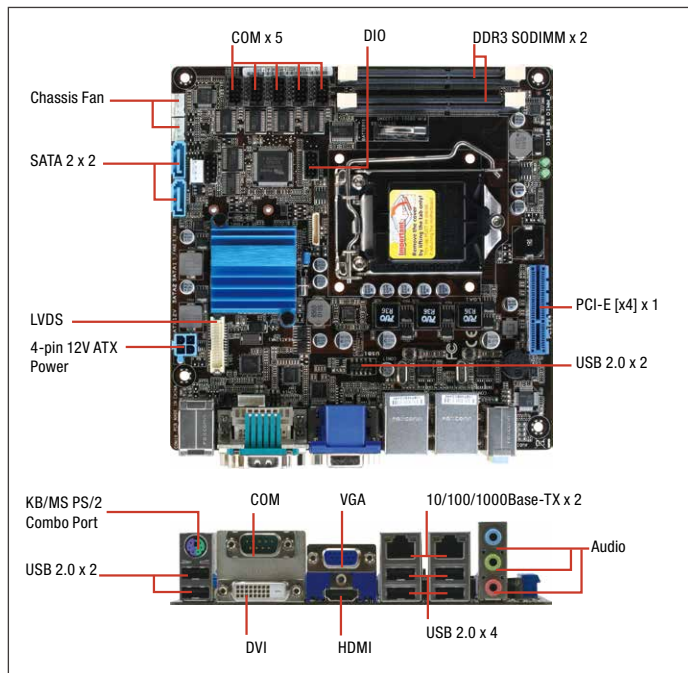


## Mini-ITX Embedded Motherboard with Intel® 2nd/3rd Generation Core™ i7/i5/i3/Pentium® Processor



## Specifications

System	
Processor	LGA1155 socket for Intel® 3rd/2nd Generation Core™ i7/ i5/ i3/ Pentium® / Celeron® Processors (Supports Intel® 32 nm CPU up to 35W)
Chipset	Intel® H61
Memory	DDR3 1333/1600 MHz SODIMM x 2, Up to 16GB, Non-ECC, Dual-channel memory architecture
Graphics	Intel® HD Graphics
I/O Chipset	Fintek F81866D-I
Ethernet	Realtek PCIe Gb LAN 8111E x 2
Audio	Realtek® ALC887
TPM	Infineon SLB9635 TT 1.2
Expansion Slots	PCIe [x4] x 1, Full-size Mini-Card (PCIe + USB) (mSATA optional)+ SIM Card x 1
BIOS	64 M bit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 step by software program
Smart Fan Control	CPU Fan/ Chassis Fan
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S1, S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	VGA+LVDS, VGA+HDMI, VGA+DVI, LVDS+HDMI, LVDS+DVI, HDMI+DVI
VGA	Up to 2048 x 1536 @ 75 Hz
DVI	Up to 1920 x 1200 @60 Hz
HDMI	Up to 1920 x 1200 @60 Hz
Display Port	—
LVDS	Up to 1920 x 1200 @60 Hz, Dual Channel 18/24-bit
eDP	—
Backlight Control	Voltage / PWM
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12V DC with 4pin Power connector x 1
Operating Temperature	32~131°F (0~55°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operating Humidity	0% ~ 90%RH, non-condensing
Certificate	CE & FCC
Form Factor	Mini-ITX, 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	117,673

## Features

- Intel® Socket 1155 for 2nd/3rd Generation Core™ i7/i5/i3 Processor Up to 65W
- Dual-Channel DDR3 1333/1066 MHz SODIMM x 2, Up to 16 GB
- Gigabit Ethernet x 2
- Intel® Integrated Graphics Engine Supports Dual Display By VGA, DVI, HDMI, LVDS
- HD 5.1CH Audio
- SATA 3.0 Gb/s x 2
- USB 2.0 x 8, COM x 6
- PCI-Express[x4] x 1, Mini-Card x 1 (mSATA Optional), TPM Module



## Rear Panel I/O Ports

USB	USB 2.0 x 6
Display I/O	VGA x 1, DVI-D x 1, HDMI x 1
Audio I/O	Mic-in x 1, Line in x 1, Line-out x 1
LAN I/O	LAN (RJ-45) port x 2
Serial Port	COM (RS-232/422/485) x 1
PS/2 Port	PS/2 Keyboard Mouse Connector x 1
Others	—

## Internal I/O Connectors

Storage	SATA connectors x 2, SATA power connector x 1, Mini-Card slot x 1
USB	USB 2.0 connectors support additional 2 USB port x 1
Display I/O	LVDS connector x 1, LVDS Power select jumper x 1, LVDS Brightness Control Type Selection x 1, LVDS Panel Backlight Power Selection x 1, LCD_POWER 5 pin connector x 1
Audio I/O	—
Serial Port	COM header x 5 (RS-232)
PS/2 Port	—
Parallel Port	—
DIO	Digital I/O header x 1
FAN	CPU Fan connector x 1, Chassis Fan connector x 1
Power	12V AUX Power Connector x 1, AT/ATX mode select jumper x 1
Others	SIM Card Socket x 1, Front Panel connector x 1, CMOS jumper x 1

## OS

OS Support	Windows® XP 32-bit, Windows® 7 32/64-bit, Linux Fedora
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## Packing List

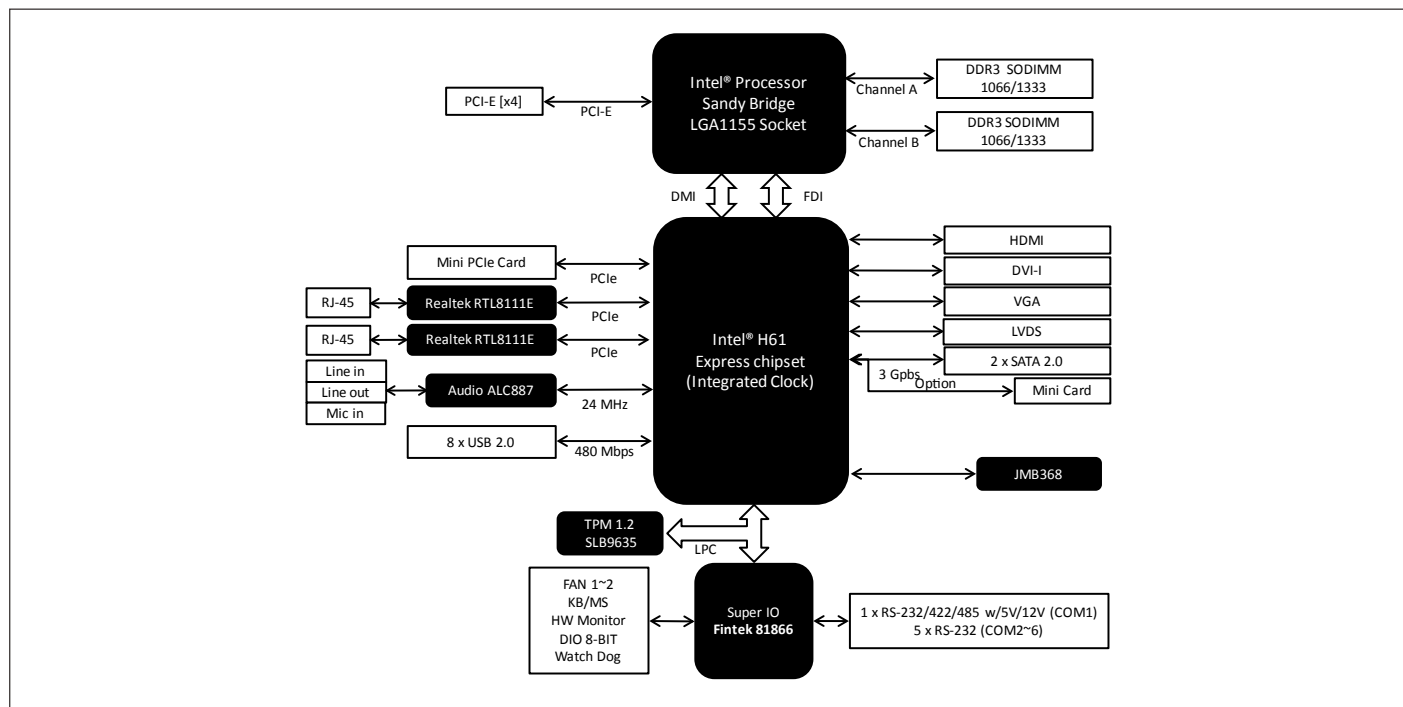
- SATA Cable
- SATA Power Cable
- I/O Shield
- Product CD
- EMB-H61A

## Optional Accessories

Part Number	Description
17592H61A0	Proprietary CPU Cooler for EMB-H61A
1701100206	COM Cable (200MM, p=2.00mm)
1709100201	USB 2.0 Cable (10P, 200MM, p=2.00mm, w/ bracket)
1709070800	SATA Cable
1700060192	PS/2 Cable (6P, 190mm, P=2.0mm)

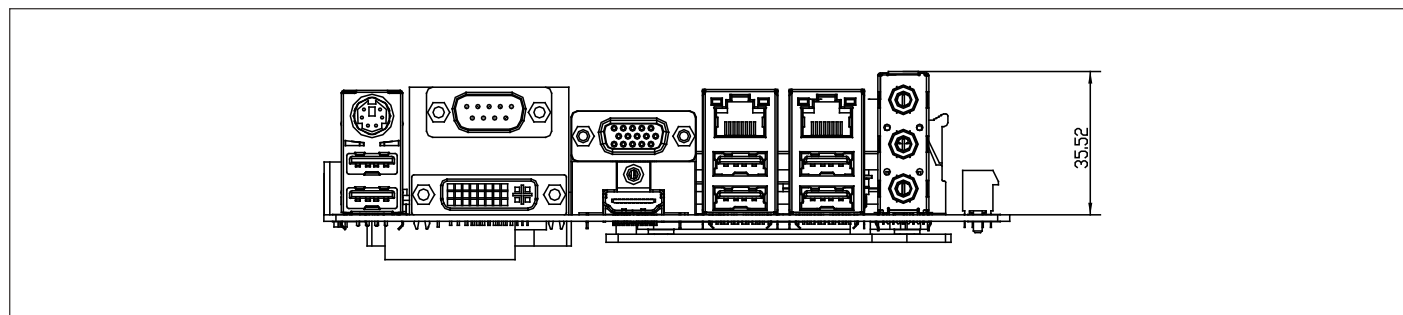
# EMB-H61A

## Block Diagram



## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
EMB-H61A-A10-NC	Socket	SODIMM x 2	Fan	VGA, DVI-D, LVDS, HDMI	SATA2 x 2	Dual Channel 18/24-bit	GbE x 2	USB 2.0 x 8	5	1	PCI-E[x4] x 1	12V DC	Onboard	32°F ~ 131°F (0°C ~ 55°C)