

GES-BIOTH02

Motherboard

Intel® Sandy Bridge-U or Ivy Bridge-U Celeron, Pentium, Core® i3/i5/i7 CPU

Features

- Intel® Sandy Bridge-U or Ivy Bridge-U Celeron, Pentium, Core® i3/i5/i7 CPU
- 1x SO-DIMM Slot, Support Single-Channel 1600/1333MHz DDR3, Up to 8GB
- Display Supports VGA, HDMI, LVDS(Optional eDP)
- 2x Realtek RTL8111H Gigabit Network Ports
- 1x Mini-PCIe (WIFI/4G) and 1x MSATA
- Support 6x USB Ports
- Built-In 6x RS232 Serial Ports, With Support For 2x RS485
- Fanless Cooling

Appearance





GES-BIOTH02

Motherboard

Intel® Sandy Bridge-U or Ivy Bridge-U Celeron, Pentium, Core® i3/i5/i7 CPU

Revision Table

Date	Revision	Content	By
2024/10/11	0.1	Mother Board Datasheet	Leon

GES-BIOTH02

Motherboard

Intel® Sandy Bridge-U or Ivy Bridge-U Celeron, Pentium, Core® i3/i5/i7 CPU

Specification

Mother Board	
CPU	Intel® Sandy Bridge-U or Ivy Bridge-U Celeron, Pentium, Core® i3/i5/i7 CPUs
Memory	1x SO-DIMM Slot, Supports Dual-channel 1600/1333MHz DDR3L/1.35V Memory, Maximum Support up to 8GB
Graphics	Integrated Intel® HD Graphics 4000
Display	1x VGA 1x HDMI 1x LVDS (Default to LVDS) Synchronous/Asynchronous VGA and HDMI Display
Ethernet	2x Realtek RTL8111H Gigabit Network Ports, Supports Wake-on-LAN/PXE
Storage	1x SATA 2.0 1x mSATA 3.0 Slot
Audio	ALC662/ALC897/ALC262 6 Channel High-Definition Audio Controller, Supports MIC In/Line-Out, Amplifier 5W
Expansion Slot	1x Mini-PCIe Slot, Supports WIFI/4G module
Back Panel I/O	1x HDMI 1x VGA 1x USB 3.0 1x USB 2.0 2x RJ-45 Gigabit Network 1x Line-Out 1x HDD/Power Indicator LED 1x 12V DC Power Input

GES-BIOTH02

Motherboard

Intel® Sandy Bridge-U or Ivy Bridge-U Celeron, Pentium, Core® i3/i5/i7 CPU

Specification

Internal I /O	1x LVDS Interface 2*15Pin, Supports Dual-Channel 24bit (Alternative to eDP, Optional) 1x Backlight Power Interface 1*6Pin 6x USB 2.0 Pin Header Interface 2*5Pin 1x Front Audio Interface 2*5Pin 1x Amplifier Interface 1*4Pin 6x COM Header Interface(COM1/COM2 Optionally Supporting RS485) 1x PS/2 Interface 1*6Pin 1x HDD Power Connector (Red Connector) 1x Front Panel Switch and LED Connector 2*5Pin 1x 12V DC Power Input Phoenix Connector 1*2Pin
Fan Connector	Back-Mounted CPU with Fanless Design, Reserved 1x 4 Pin CPU Fan Connector
GPIO	Supports 4 Channels Inputs/Outputs
BIOS	32Mb Flash ROM
Watchdog	Supports Hardware Reset Function (256 Levels, 0~255 Seconds)
Support OS	Windows 7/Windows 10/Linux
Power Supply	Supports 12V DC Power Input
Dimension	146* 102mm

Environment Compliance

Operating Temp.	-20°C ~ 60°C
Storage Temp.	-20°C ~ 70°C
Humidity	5% to 95%RH, Non-Condensing

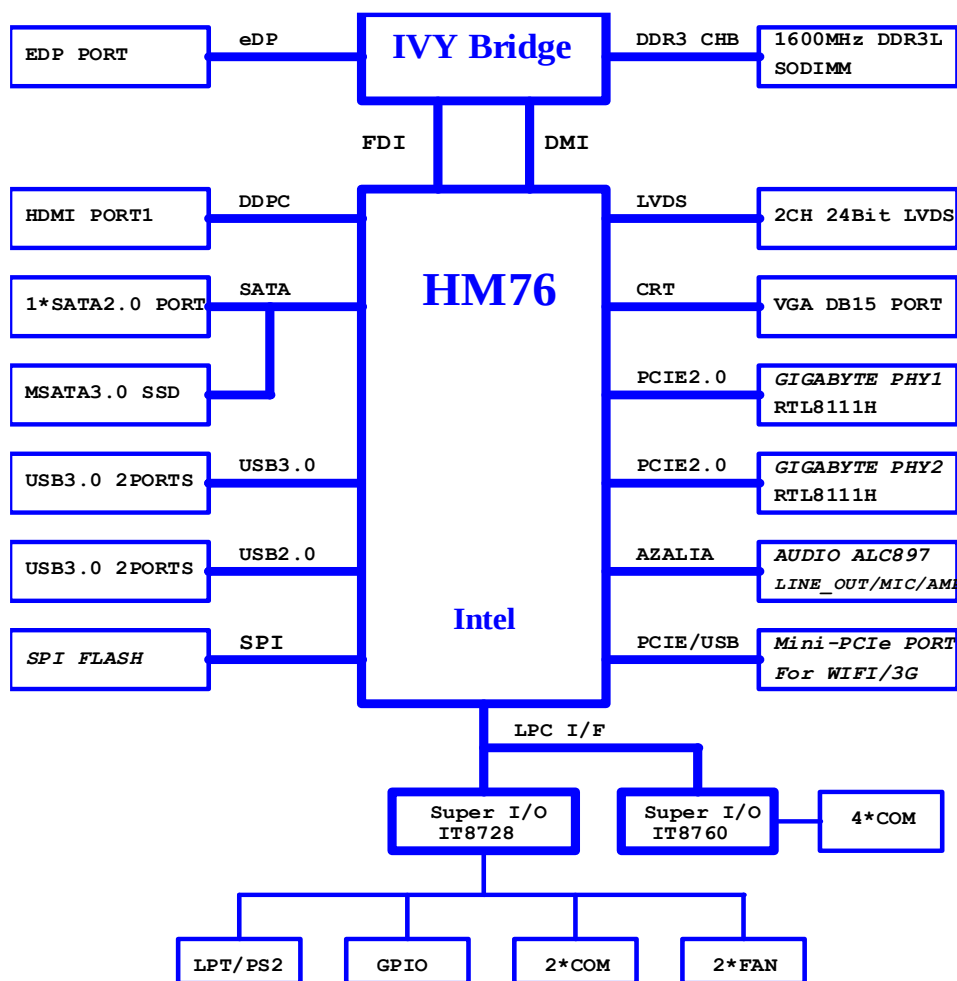
Environmental performance may vary according to the integration method or final integration scenario.

GES-BIOTH02

Motherboard

Intel® Sandy Bridge-U or Ivy Bridge-U Celeron, Pentium, Core® i3/i5/i7 CPU

Block Diagram



Note:COM1`2 can support RS485

Interface Options

No.	Interface Options	CPU	Cores	Frequency	DDR	HDMI	VGA	LVDS	LAN	USB	PS/2	COM/485	POWER
1	-	i3-3217U	2	1.8GHz	DDR3L	1	1	1	2	8	1	6/2	12V
2	-	i5-3317U	2	1.7GHz	DDR3L	1	1	1	2	8	1	6/2	12V
3	-	i7-3517U	2	1.9GHz	DDR3L	1	1	1	2	8	1	6/2	12V

GES-BIOTH02

Motherboard

Intel® Sandy Bridge-U or Ivy Bridge-U Celeron, Pentium, Core® i3/i5/i7 CPU

Deliverables

1	Motherboard Intel® Sandy Bridge-U or Ivy Bridge-U Celeron, Pentium, Core® i3/i5/i7 CPU
Others	Optional Assemblies as per Ordering Details

Ordering Details

GES-BIOTH02 - P P P P P S M T C

Processor:

(3217U): i3-3217U
(3317U): i5-3317U
(3517U): i7-3517U

Storage

(N): None
(1): 8GB
(2): 16GB
(3): 32GB
(4): 64GB
(5): 120~128GB
(6): 240~256GB
(7): 480~512GB
(8): 960~1TB
(9): 2TB
(A): 4TB

Memory

(N): None
(1): 2GB
(2): 4GB
(3): 8GB

Telecommunication

(N): None
(F): 5G
(L): 4G/LTE
(S): 3G
(G): 2G

Connectivity (Wireless)

WIFI/GPS/BT
(N): None
(A): WIFI, BT, GPS
(B): BT
(C): WIFI, GPS
(D): BT, GPS
(E): WIFI, BT
(G): GPS
(W): WIFI

Example: GES-BIOTH01-3217U43NN

Motherboard - Intel® Sandy Bridge-U or Ivy Bridge-U Celeron, Pentium, Core® i3/i5/i7 CPU; with i3-3217U CPU, 64GB Storage, 8GB RAM

Optional Interfaces listed in the datasheet could be set upon request.

Disclaimer

This datasheet is for informational purposes only and does not constitute professional advice, a contractual obligation, or a guarantee of any kind. While efforts have been made to ensure accuracy, ACT POWER TAIWAN makes no representations or warranties, express or implied, regarding its completeness or reliability. ACT POWER TAIWAN reserves the right to update, modify, or withdraw this document at any time without prior notice. Users should verify the suitability of the product for their specific application through independent testing and validation. ACT POWER TAIWAN shall not be liable for any direct, indirect, or consequential damages arising from the use of this document. This document is governed by the laws of Taiwan, and any disputes shall be subject to the exclusive jurisdiction of the Taiwan courts.