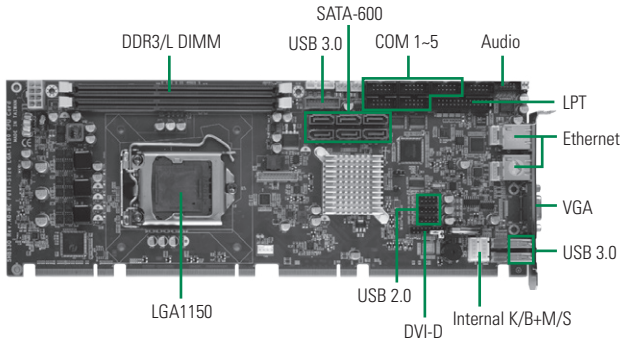


SHB130

LGA1150 4th Generation Intel® Core™ i7/i5/i3 Processor PICMG 1.3 Full-size CPU Card with Intel® Q87, SATA3, USB 3.0, DVI-D/VGA or DisplayPort for Dual Display and Dual LANs



System

CPU	LGA1150 socket for 4th Generation Intel® Core™ i7/i5/i3 processor (Codename Haswell/Haswell Refresh), TDP up to 65W
System Memory	2 x 240-pin DDR3-1333/1600 DIMM max. up to 16 GB
Chipset	Intel® Q87
BIOS	AMI UEFI BIOS with OA 3.0 built
SSD	N/A
Watchdog Timer	225 levels, 1~255 sec.
Expansion Interface	Edge Connector A: 1 x PCIe x16, Gen. 3 Edge Connector B: 1 x PCIe x4 or 4 x PCIe x1, Gen. 2 4 x 32 bit PCI bus masters
Battery	Lithium 3V/220 mAh
Power Requirements	Intel® Core™ i7-4770S +5V @ 2.26A, +12V @ 4.68A, +5VSB @ 0.2A, +3.3V @ 2.3A
Size	338 x 126 mm
Board Thickness	1.6 mm
Temperature	0° ~ +60°C (32°F ~ 140°F), operation
Operation Humidity	10% ~ 95% relative humidity, non-condensing

I/O

MIO	1 x PS/2 keyboard 1 x PS/2 mouse 1 x LPT; with SPP/EPP/ECP supported 4 x RS-232 (COM 2/3/4/5) 1 x RS-232/422/425 (COM 1), mode selection by SW 1 x DVI-D 2 x Smart fan for system Fan 1/Fan 2 1 x DIO (4-IN & 4-OUT)
RIO	2 x RJ-45, 1 x VGA or DisplayPort, 2 x USB 3.0
SATA	6 x SATA-600 with RAID 0/1/5/10
Hardware Monitoring	Detect CPU/System temperature, voltage and fan speed
Ethernet	1st ports as 10/100/1000Mbps supports WOL/RPL/PXE Boot ROM with Intel® i217LM with AMT 9.0 supported 2nd port as 10/100/1000Mbps supports WOL/RPL/PXE Boot ROM with Intel® i210AT
Audio	1 x HD Codec audio as MIC-in/Line-in/Line-out/speaker-out with ALC662
USB	10 x USB 2.0, 4 x USB 3.0
SMBus	N/A
TPM	Infineon SLB9635 for trusted platform(optional)

Features

- LGA1150 socket 4th generation Intel® Core™ i7/i5/i3 processor (Haswell/Haswell Refresh)
- Intel® Q87 Chipset
- 2 DDR3 DIMM max. up to 16 GB memory capacity
- Intel® AMT 9.0 & TPM supported (optional)
- PCIe Gen. 3 at 8GT/s supported
- DVI-D and VGA or DisplayPort for dual displays
- 6 SATA-600 with RAID 0/1/5/10
- USB 3.0 supported

Display

Chipset	Intel® HD Graphics
Memory Size	Intel® DVMT 5.0
Display Interface	1 x VGA (default) 1 x DVI-D (header) 1 x DisplayPort (optional)

Packing List

Standard

Quick installation guide, user's manual/utility CD, cable

Cable

Part Number	Description	Qty
59380502000E	COM+Print cable w/bracket	1
593826A0000E	SATA signal cable 500 mm	1

Ordering Information

Standard

SHB130VGGA	LGA1150 socket PICMG1.3 full-size CPU card with VGA, (P/N: E38C130101)	2 GbE LAN Ethernet and audio
SHB130PGGA	LGA1150 socket PICMG1.3 full-size CPU card with (P/N: E38C130100)	DisplayPort, 2 GbE LAN and audio

Optional

E9B900C000	LGA1156 cooler 4-pin H: 61.4 mm
50761222000E	LGA1156 2U cooler 3-pin H: 68.8 mm
5938A808010E	2 x USB 2.0 cable w/bracket, P=2.54mm, L=190 mm
59380000290E	PS/2 keyboard & mouse cable with bracket
593836A0030E	4 pin power cable to SATA x 2, L=150 mm
59384500100E	Audio cable w/ bracket P=2.0 mm, L=450 mm
594C1093500E	DVI cable 24-pin header to DVI-D, L=30 mm
71193221200E	DVI bracket
5948C122800E	2 x USB 3.0 cable w/Bracket 20P, L=400mm

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Industrial Motherboards

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Slot CPU Cards

ARM Embedded Boards

Accessories

Appendix

