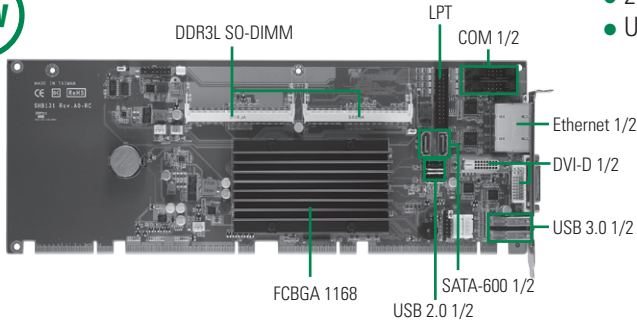


SHB131

PICMG 1.3 Full-size CPU Card with 4th Generation Intel® Core™ i7/i5 & Celeron® U-series Processors, SATA3, USB 3.0, LAN and Dual DVI-D



System

CPU	4th generation Intel® Core™ i7/i5 & Celeron® U-series processors, TDP up to 15W
System Memory	2 x 204-pin DDR3L-1600 SO-DIMM max. up to 16 GB
Chipset	SoC integrated
BIOS	AMI UEFI BIOS with OA 3.0 built
SSD	N/A
Watchdog Timer	225 levels, 1~255 sec.
Expansion Interface	Edge Connector A & B: 1 x PCIe x4 or 4 x PCIe x1, Gen. 2 Edge Connector C: 4 x USB 2.0
Battery	Lithium 3V/220 mAh
Power Requirements	TBD
Size	338 x 126 mm
Board Thickness	1.6 mm
Temperature	0°C ~ +60°C (32°F ~ 140°F), operation
Operation Humidity	10% ~ 95% relative humidity, non-condensing

Features

- 4th generation Intel® U-series processors
- 2 DDR3L-1600 SO-DIMM max. up to 16 GB
- 2 DVI-D with dual view supported
- 2 SATA-600 with RAID 0/1
- USB 3.0 supported

Display

Chipset	Intel® HD Graphics
Memory Size	TBD
Display Interface	2 x DVI-D

Packing List

Standard	Quick installation guide, user's manual/utility CD, cable
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Cable		
Part Number	Description	Qty
59380502000E	COM+Print cable w/bracket	1
593826A0000E	SATA signal cable 500 mm	1

Ordering Information

Standard		
Part Number	Description	Qty
SHB131DGGA-i7-4650U	4th generation Intel® Core™ i7-4650U processor PICMG 1.3 full-size CPU card with DVI-D, 2 GbE LANs and audio (P/N: TBD)	
SHB131DGGA-i5-4300U	4th generation Intel® Core™ i5-4300U processor PICMG 1.3 full-size CPU card with DVI-D, 2 GbE LANs and audio (P/N: TBD)	
SHB131DGGA-Celeron-2980U	4th generation Intel® Celeron® 2980U processor PICMG 1.3 full-size CPU card with DVI-D, 2 GbE LANs and audio (P/N: TBD)	

Архангельск (8182)63-90-72
Астана +7(7172)727-132
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Казань (843)206-01-48

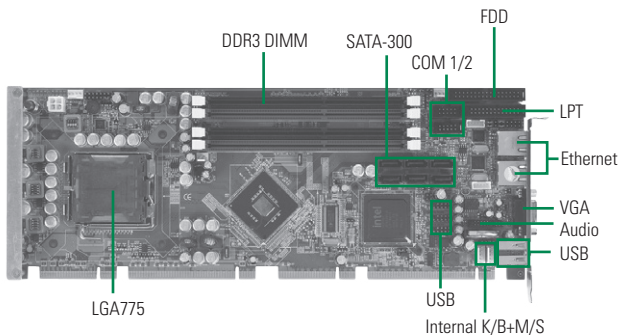
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41

Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78

Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

SHB102

LGA775 Intel® Core™2 Quad/Core™2 Duo & Celeron® Processor PICMG 1.3
Full-size CPU Card with Intel® Q45 + ICH10DO, Dual LANs, iAMT and iTPM



System

CPU	LGA775 socket for Intel® Core™2 Quad/ Core™2 Duo and Celeron® processor with FSB 800/1066/1333 MHz
System Memory	4 x 240-pin DIMM support DDR3-800/1066 max. up to 8 GB
Chipset	Intel® Q45 + ICH10DO
BIOS	AMI BIOS
SSD	N/A
Watchdog Timer	255 levels, 1~255 sec.
Expansion Interface	1 x PCIe x16 graphics port supports for SDVO or PCIe x1 devices 4 x PCIe lanes support 1 PCIe x4 or 4 PCIe x1 I/O devices 4 x 32-bit PCI bus masters 16-bit ISA
Battery	Lithium 3V/196 mAH
Power Requirements	Intel® Q9400 @2.66 GHz, 2 GB DDR3 +5V_SBY @ 502mA, +3.3V @ 921mA, +5V @ 2.283A, +12V (System) @ 362mA, -12V @ NA, +12V (CPU) @ 2.392A
Size	338 x 126 mm
Board Thickness	1.6 mm
Temperature	0° ~ +60°C (32°F ~ 140°F), operation
Relative Humidity	10% ~ 95% relative humidity, non-condensing

I/O

MIO	1 x FDD 1 x PS/2 keyboard 1 x PS/2 mouse 1 x LPT; with SPP/EPP/ECP supported 1 x RS-232 (COM 1) 1 x RS-232/422/485 (COM 2)
SATA	6 x SATA-300 with RAID 0/1/10/5
Hardware Monitoring	Detect CPU/system temperature, voltage and fan speed
Ethernet	1st port as 10/100/1000Mbps supports iAMT, Wake-on-LAN, RPL/PXE Boot ROM with Intel® 82567LM 2nd port as 10/100/1000Mbps supports Wake-on-LAN, RPL/PXE Boot ROM with Intel® 82574L
Audio	HD Codec audio as MIC-in/Line-in/Line-out/speaker-out with Realtek ALC888
USB	12 x USB 2.0
SMBus	System Management Bus for advanced monitoring/control

Features

- LGA775 for Intel® Core™2 Quad/ Core™2 Duo and Celeron® processor with 800/1066/1333 MHz
- 4 DDR3-800/1066 DIMM support up to 8 GB
- Intel® GMA X4500 high performance integrated graphics controller with DX10 and OpenGL 2.1
- 6 SATA-300 with RAID 0, 1, 10 and 5
- Intel® AMT & TPM supported
- Supports PCI Express 2.0 x16

Display

Chipset	Intel® GMA X4500 graphics core
Memory Size	Intel® DVMT 5.0 compliant
Display Interface	1 x VGA

Packing List

Standard		
Quick installation guides, 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

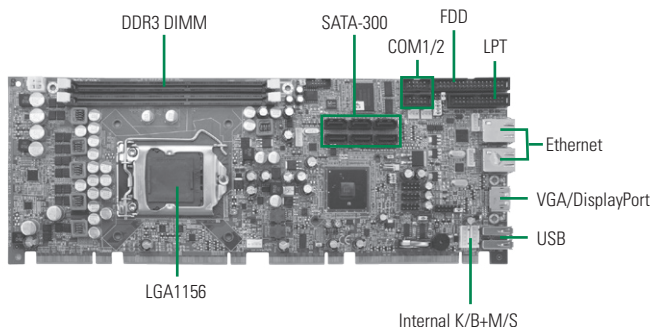
Standard	
SHB102VGGA (P/N: E38C102100)	LGA775 socket PICMG 1.3 full-size CPU card with VGA, 2 GbE LAN, iAMT, iTPM, RAID and Audio

Optional	
593836A0030E	4-pin power cable to SATA x 2, L=150 mm
5938A808010E	2 x USB cable with bracket, P=2.54 mm, L=190 mm
59384500100E	Audio cable P=2.0 mm, L=450 mm
59380002900E	PS/2 keyboard & mouse cable with bracket
E9C900B008	LGA775 slim cooler 3P H=25 mm (for 1U Chassis)
E9C900B009	LGA775 cooler 3p H=66.8 mm (for 2U/4U/Shoebox)
E9C900B010	LGA775 cooler 4p H=61.4 mm (for 2U/4U/Shoebox)

* This product must use a proprietary CPU cooler.
we strongly recommend purchasing from Axiomtek.

SHB103

LGA1156 Socket Intel® Core™ i7/i5/i3 & Pentium® Processor PICMG 1.3 Full-size CPU Card with Intel® Q57, VGA, Dual LANs and Audio



System

CPU	LGA1156 socket for Intel® Core™ i7/i5/i3 and Pentium® processor
System Memory	2 x 240-pin DIMM support DDR3-1066/1333 max. up to 8 GB
Chipset	Intel® Q57
BIOS	AMI UEFI BIOS
SSD	N/A
Watchdog Timer	255 levels, 1~255 sec.
Expansion Interface	1 x PCIe x16 graphics port supports for SDVO or PCIe x1 devices 4 x PCIe lanes support 1 PCIe x4 or 4 PCIe x1 I/O devices 4 x 32-bit PCI bus masters
Battery	Lithium 3V/220 mAH
Power Requirements	Intel® Core™ i5-660 @3.33 GHz, 1 GB DDR3 +5V_SBY @ 23mA, +3.3V @ 1.372A, +5V @ 1.548A, +12V (System) @ 158mA, -12V @ 28mA, +12V (CPU) @ 1.809A
Size	338 x 126 mm
Board Thickness	1.6 mm
Temperature	0° ~ +60°C (32°F ~ 140°F), operation
Relative Humidity	10% ~ 95% relative humidity, non-condensing

I/O

MIO	1 x FDD 1 x PS/2 keyboard 1 x PS/2 mouse 1 x LPT; with SPP/EPP/ECP supported 1 x RS-232/422/485 (COM 1) 1 x RS-232 (COM2)
SATA	6 x SATA-300 with RAID 0/1/10/5
Hardware Monitoring	Detect CPU/system temperature, voltage and support Smart Fan control
Ethernet	1st port as 10/100/1000Mbps supports iAMT, Wake-on-LAN, RPL/PXE Boot ROM with Intel® 82578DM 2nd port as 10/100/1000Mbps supports Wake-on-LAN, RPL/PXE Boot ROM with Intel® 82583V
Audio	HD Codec audio as MIC-in/Line-in/Line-out/speaker-out with Realtek ALC662
USB	12 x USB 2.0
TPM	Infineon SLB9635 for trusted platform
SMBus	System Management Bus for advanced monitoring/control

Features

- LGA1156 socket for Intel® Core™ i7/i5/i3 and Pentium® (G6950) processor
- 2 DDR3-1066/1333 DIMM support up to 8 GB memory capacity
- 6 SATA-300 with RAID 0, 1, 10 and 5
- Intel® AMT & TPM supported
- DisplayPort supported (optional)

Display

Chipset	Intel® HD Graphics
Memory Size	Intel® DVM 5.0 compliant
Display Interface	1 x VGA 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 500mm	1

Ordering Information

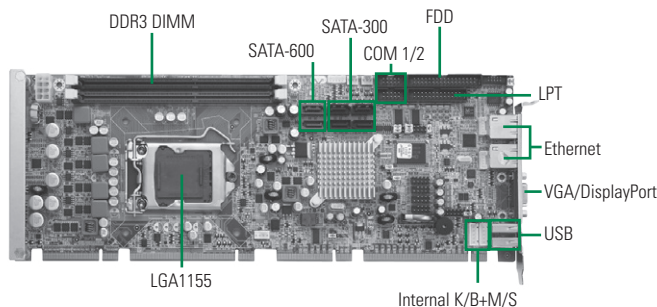
Standard	
SHB103VGGA (P/N: E38C103101)	LGA1156 socket Intel® Core™ i7/i5/i3 and Pentium® PICMG 1.3 full-size CPU card with VGA, 2 GbE LAN and audio
SHB103PGGA (P/N: E38C103100)	LGA1156 socket Intel® i7/i5/i3 and Pentium® PICMG 1.3 full-size CPU card with DisplayPort and 2 GbE LAN

Optional	
59384500100E	Audio cable w/ bracket, P=2.0 mm, L=450 mm
5938A808010E	2 x USB cable with bracket, P=2.54 mm, L=190 mm
593836A0030E	4-pin power cable to SATA x 2, L=150 mm
59380000290E	PS/2 keyboard and mouse cable with bracket
E9B900C000	LGA1156 cooler 4-pin H=61.4 mm
50761222000E	LGA1156 2U cooler 3-pin H=68.8 mm

* Discrete graphic card is necessary for display if the chosen CPU doesn't have integrated graphics support.

SHB106

LGA1155 Intel® Core™ i7/i5/i3 Processor
PICMG 1.3 Full-size CPU Card with Intel®
Q67, VGA, Dual LANs and Audio



System

CPU	LGA1155 socket for Intel® Core™ i7/i5/i3 processor
System Memory	2 x 240-pin DIMM support DDR3-1066/1333 max. up to 16 GB
Chipset	Intel® Q67 Chipset
BIOS	AMI UEFI BIOS
SSD	N/A
Watchdog Timer	255 levels, 1~255 sec.
Expansion Interface	1 x PCIe x16 graphics port support for SDVO or PCIe x1 devices 4 x PCIe lanes support 1 PCIe x4 or 4 PCIe x1 I/O devices 4 x 32-bit PCI bus masters
Battery Lithium	3V/220mAH
Power Requirements	Intel® Core™ i5-2400 @ 3.1 GHz, 4 GB DDR3 +5V SBY @ 6.2mA, +3.3 @ 0.8A, +5V @ 1.34A, +12V @ 2.94A, -12V @ 0.08A
Size	338 x 126 mm
Board Thickness	1.6 mm
Temperature	0° ~ +60°C (32°F ~ 140°F), operation
Relative Humidity	10% ~ 95% relative humidity, non-condensing

I/O

MIO	1 x FDD 1 x PS/2 keyboard 1 x PS/2 mouse 1 x LPT; with SPP/EPP/ECP supported 1 x RS-232/422/485 (COM 1) 1 x RS-232 (COM 2)
SATA	2 x SATA-600/s & 4 x SATA-300/s with RAID 0/1/10/5
Hardware Monitoring	Supports CPU/System temperature, CPU/System voltage, and CPU/System Smart Fan features
Ethernet	1st port 10/100/1000 Mbps supports Wake-on-LAN, PXE Boot ROM, iAMT with Intel® 82579LM 2nd port 10/100/1000 Mbps supports Wake-on-LAN, PXE Boot ROM with Intel® 82574L
Audio	HD Codec audio as MIC-in/Line-in/Line-out/Speaker-out with Realtek ALC662
USB	14 x USB 2.0
SMBus	System Management Bus for advanced monitoring/control
TPM	Infineon SLB9635 for trusted platform

Features

- LGA1155 socket for Intel® Core™ i7/i5/i3 processor
- 2 DDR3-1066/1333 DIMM support up to 16 GB memory capacity
- Intel® AMT 7.0 & TPM supported
- 2 SATA-600 supported
- PCIe Gen2 at 5GT/s supported

Display

Chipset	Intel® HD graphics
Memory Size	Max. up to 352 MB frame buffer dedicated memory
Display Interface	1x VGA 1x 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

SHB106VGGA	LGA1155 socket PICMG 1.3 full-size CPU card with VGA, 2 GbE LAN, audio and BIOS x4 (P/N: E38C106100)
SHB106PGGA	LGA1155 socket PICMG 1.3 Full-size CPU card with DisplayPort, 2 GbE LAN, audio and BIOS x4 (P/N: E38C106101)
SHB106VGGA	LGA1155 socket PICMG 1.3 Full-size CPU card with VGA, 2 GbE LAN, audio and BIOS x1 (P/N: E38C106102)
SHB106PGGA	LGA1155 socket PICMG 1.3 Full-size CPU card with DisplayPort, 2 GbE LAN, audio and BIOS x1 (P/N: E38C106103)

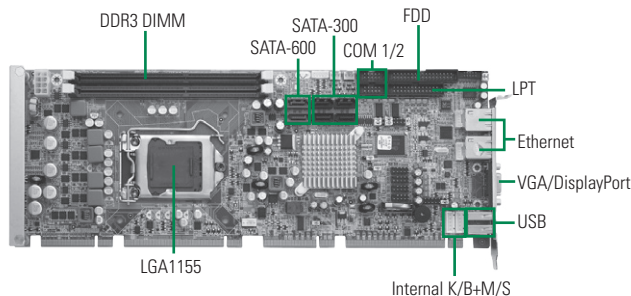
Optional

59384500100E	Audio cable w/ bracket, P=2.0 mm, L=450 mm
5938A808010E	2 x USB cable with bracket, P=2.54 mm, L=190 mm
593836A0030E	4-pin power cable to SATA x 2, L=150 mm
59380000290E	PS/2 keyboard and mouse cable with bracket
E9B900C000	LGA1156 cooler 4-pin H=61.4 mm
50761222000E	LGA1156 2U cooler 3-pin H=68.8 mm

* Discrete graphic card is necessary for display if the chosen CPU doesn't have integrated graphics support.

SHB108

LGA1155 Intel® Core™ i7/i5/i3 & Xeon® Processor PICMG 1.3 Full-size CPU Card with Intel® C206, VGA, Dual LANs, Audio and ECC Memory



System

CPU	LGA1155 socket for Intel® Core™ i7/i5/i3 and Xeon® processor
System Memory	2 x 240-pin DIMM support DDR3-1066/1333 max. up to 16 GB
Chipset	Intel® C206 Chipset
BIOS	AMI UEFI BIOS
SSD	N/A
Watchdog Timer	255 levels, 1~255 sec.
Expansion Interface	1 x PCIe x16 graphics port supports for SDVO or PCIe x1 devices 4 x PCIe lanes support 1 PCIe x4 or 4 PCIe x1 I/O devices 4 x 32-bit PCI bus masters
Battery Lithium	3V/220mAH
Power Requirements	Intel® Xeon® E3-1275 @ 3.4 GHz, 1 GB DDR3 +5V SBY @ 0.1A, +3.3V @ 0.7A, +5V @ 0.95A, +12V @ 2.23A, -12V @ 17mA
Size	338 x 126 mm
Board Thickness	1.6 mm
Temperature	0° ~ +60°C (32°F ~ 140°F), operation
Relative Humidity	10% ~ 95% relative humidity, non-condensing

I/O

MIO	1 x FDD 1 x PS/2 keyboard 1 x PS/2 mouse 1 x LPT; with SPP/EPP/ECP supported 1 x RS-232/422/485 (COM 1) 1 x RS-232 (COM 2)
SATA	2 x SATA-600 & 4 x SATA-300 with RAID 0/1/10/5
Hardware Monitoring	Supports CPU/System temperature, CPU/System voltage, and CPU/System Smart Fan features
Ethernet	1st port 10/100/1000 Mbps supports Wake-on-LAN, PXE Boot ROM, iAMT with Intel® 82579LM 2nd port 10/100/1000 Mbps supports Wake-on-LAN, PXE Boot ROM with Intel® 82574L
Audio	HD Codec audio as MIC-in/Line-in/Line-out/Speaker-out with Realtek ALC662
USB	14 x USB 2.0
SMBus	System Management Bus for advanced monitoring/control
TPM	Infineon SLB9635 for trusted platform

Features

- LGA1155 socket for Intel® Core™ i7/i5/i3 and Xeon® processor
- Intel® C206 Chipset
- 2 DDR3-1066/1333 DIMM support up to 16 GB memory capacity
- Intel® AMT 7.0 & TPM supported
- SATA-600 supported
- PCIe Gen. 2 at 5GT/s supported
- Supports ECC memory

Display

Chipset	Intel® HD graphics
Memory Size	Max. up to 352 MB frame buffer dedicated memory
Display Interface	1 x VGA 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	
SHB108VGGA (P/N: E38C108100)	LGA1155 socket PICMG 1.3 full-size CPU card with VGA, 2 GbE LAN and audio, BIOS x4
SHB108PGGA (P/N: E38C108101)	LGA1155 socket PICMG 1.3 Full-size CPU card with DisplayPort, 2 GbE LAN and audio, BIOS x4

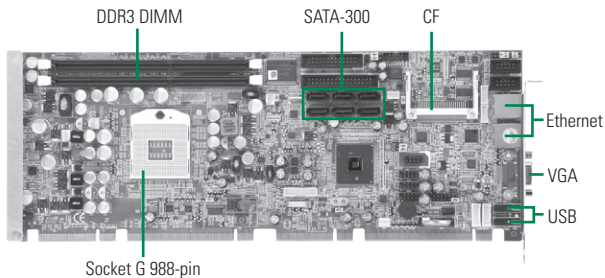
Optional

59384500100E	Audio cable w/ bracket, P=2.0 mm, L=450 mm
5938A808010E	2 x USB cable with bracket, P=2.54 mm, L=190 mm
593836A0030E	4-pin power cable to SATA x 2, L=150 mm
59380000290E	PS/2 keyboard and mouse cable with bracket
E9B900C000	LGA1156 cooler 4-pin H=61.4 mm
50761222000E	LGA1156 2U cooler 3pin H=68.8 mm

* Discrete graphic card is necessary for display if the chosen CPU doesn't have integrated graphics support.

SHB111

Socket G Intel® Core™ i7/i5/i3 & Celeron® Processor PICMG 1.3 Full-size CPU Card with Intel® QM57, VGA, LVDS, Dual LANs and Audio



System

CPU	Socket G for Intel® Core™ i7/i5/i3 and Celeron® processor
System Memory	2 x 240-pin DIMM support DDR3-800/1066 max. up to 8 GB
Chipset	Intel® QM57
BIOS	AMI UEFI BIOS
SSD	1 x CompactFlash™
Watchdog Timer	255 levels, 1~255 sec.
Expansion Interface	1 x PCIe x16 graphics port supports for SDVO or PCIe x1 devices 4 x PCIe lanes support for 1 x PCIe x4 or 4 x PCIe x1 I/O devices 4 x 32-bit PCI bus masters
Battery	Lithium 3V/220 mAH
Power Requirements	Intel® Core™ i7-620M @2.66 GHz, 1 GB DDR3 +5V_SBY @ 63.52mA, +3.3V @ 842mA, +5V @ 869mA, +12V @ 2.178A
Size	338 x 126 mm
Board Thickness	1.6 mm
Temperature	0° ~ +60°C (32°F ~ 140°F), operation
Relative Humidity	10% ~ 95% relative humidity, non-condensing

I/O

MIO	1 x FDD 1 x PS/2 keyboard 1 x PS/2 mouse 1 x LPT; with SPP/EPP/ECP supported 1 x RS-232 (COM 1) 1 x RS-232/422/485 (COM 2)
SATA	6 x SATA-300 with RAID 0/1/10/5
Hardware Monitoring	Detect CPU/system temperature, voltage and support Smart Fan control
Ethernet	1st port as 10/100/1000Mbps supports iAMT, Wake-on-LAN, RPL/PXE Boot ROM with Intel® 82577LM 2nd port as 10/100/1000Mbps supports Wake-on-LAN, RPL/PXE Boot ROM with Intel® 82583V
Audio	HD Codec audio as MIC-in/Line-in/Line-out/ Speaker-out with Realtek ALC662
USB	14 x USB 2.0
TPM	Infineon SLB9635 for trusted platform
SMBus	System Management Bus for advanced monitoring/control

Features

- Socket G for Intel® Core™ i7/i5/i3 and Celeron® processor
- 2 DDR3-800/1066 DIMM support up to 8 GB memory capacity
- 6 SATA-300 with RAID 0, 1, 5 and 10
- Intel® AMT & TPM supported (optional)

Display

Chipset	Intel® HD Graphics
Memory Size	Intel® DVMT 5.0 compliant
Display Interface	1 x VGA 1 x LVDS; 18/24-bit single/dual channel

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
5078C111100E	CPU PM989 cooler	1

Ordering Information

Standard

SHB111VGGA (P/N: E38C111100)	Socket G Intel® Core™ i7/i5/i3 & Celeron® PICMG 1.3 full-size CPU card with VGA, LVDS, 2 GbE LAN, audio and BIOS x1
SHB111VGGGA (P/N: E38C111102)	Socket G Intel® Core™ i7/i5/i3 & Celeron® PICMG 1.3 full-size CPU card with VGA, LVDS, 2 GbE LAN, audio and BIOS x4

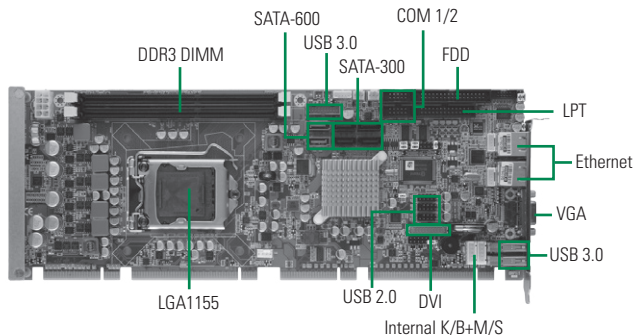
Optional

59384500100E	Audio cable w/ bracket, P=2.0 mm, L=450 mm
5938A808010E	2 x USB cable with bracket, P=2.54 mm, L=190 mm
593836A0030E	4-pin power cable to SATA x 2, L=150 mm
59380000290E	PS/2 keyboard and mouse cable with bracket

* Discrete graphic card is necessary for display if the chosen CPU doesn't have integrated graphics support.

SHB120

LGA1155 3rd Generation Intel® Core™ i7/i5/i3 Processor 1. 3 Full-size CPU Card with Intel® Q77, SATA3, USB 3.0, VGA/DVI and Dual LANs



System

CPU	LGA1155 for 3rd Generation Intel® Core™ i7/i5/i3 processor (Ivy Bridge)
System Memory	2 x 240-pin DDR3-1333/1600 DIMM max. up to 16 GB
Chipset	Intel® Q77
BIOS	AMI UEFI BIOS with OA 3.0 built
SSD	N/A
Watchdog Timer	225 levels, 1~255 sec.
Expansion Interface	1 x PCIe x16, Gen. 3 1 x PCIe x4 (or 4 PCIe x1), Gen. 2 4 x 32 bit PCI bus masters
Battery	Lithium 3v/220 mAH
Power Requirements	Intel® Core™ i7-2700K +5V @ 2.1A, +12V @ 8A, +5Vsb @ 0.1A, +3.3V @ 2.3A
Size	338 x 122 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 FDD 1 x PS/2 keyboard 1 x PS/2 mouse 1 x LPT; with SPP/EPP/ECP supported 1 x RS-232 (COM 2) 1 x RS-232/422/425 (COM 1) 1 x DVI-D
RIO	2 x RJ-45, 1 x VGA or Displayport, 2 x USB 3.0
SATA	2 x SATA-600 & 4 x SATA-300, 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® 82574L 2nd port as 10/100/1000Mbps supports WOL, RPL/PXE Boot ROM with Intel® 82579LM
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	Yes
TPM	Infineon SLB9635 for trusted platform (optional)

Features

- LGA1155 for 3rd Generation Intel® Core™ i7/i5/i3 processor (Ivy Bridge)
- Intel® Q77 Chipset
- 2 DDR3 DIMM support up to 16 GB memory
- Intel® AMT 8.0 & TPM (optional) supported
- PCIe Gen. 3 at 8GT/s supported
- USB 3.0 supported
- DVI and VGA for dual displays

Display

Chipset	Intel® HD Graphics
Memory Size	Max. up to 352 MB frame buffer dedicated memory
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

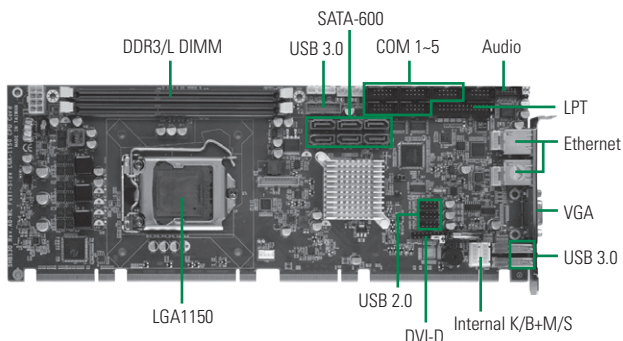
SHB120VGGA	LGA1155 socket PICMG1.3 full-size CPU card with VGA, (P/N: E38C120100)	2 GbE LAN and audio
SHB120PGGA	LGA1155 socket PICMG1.3 full-size CPU card with DisplayPort, (P/N: E38C120101)	2 GbE LAN and audio

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
593826A0000E	SATA signal cable 500 mm
593836A0030E	4 pin power cable to SATA x 2, L=150 mm
594C1093500E	DVI cable 24-pin header to DVI-D, L=30 cm
71193221200E	DVI bracket
59384500100E	Audio cable w/ bracket, P=2.0 mm, L=450 mm
5948C122800E	2 x USB 3.0 cable w/Bracket 20P, L=400mm

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® DVM 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

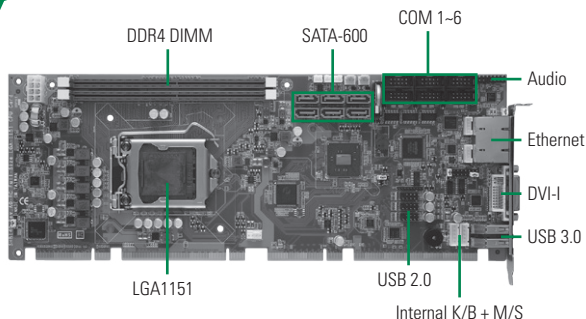
SHB130VGGA	LGA1150 socket PICMG1.3 full-size CPU card with VGA, 2 GbE LAN Ethernet and audio (P/N: E38C130101)
SHB130PGGA	LGA1150 socket PICMG1.3 full-size CPU card with DisplayPort, 2 GbE LAN and audio (P/N: E38C130100)

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

SHB140

PICMG 1.3 Full-size CPU Card with LGA1151 6th Generation Intel® Core™, Intel® Q170, SATA3, USB 3.0, LAN and DVI-I



System

CPU	LGA1151 for 6th generation Intel® Core™ processors, TDP up to 65W vPro supported
System Memory	2 x 288-pin DDR4-2133 un-buffered DIMM max. up to 32 GB
Chipset	Intel® Q170
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™ i7-6700, 8 GB DDR4-2133 x 2 +5V @ 1.38A, +12V @ 2.13A, +5VSB @ 0.72A, +3.3V @ 0.54A
Size	338 x 126 mm
Board Thickness	1.6 mm
Temperature	0°C ~ +60°C (+32°F ~ +140°F), operation
Operation Humidity	10% ~ 95% relative humidity, non-condensing

- LGA1151 6th generation Intel® Core™ processor
- Intel® Q170
- 2 DDR4-2133 un-buffered DIMM max. up to 32 GB
- Intel® AMT 11 & TPM (optional) supported
- PCIe Gen. 3 at 8GT/s supported
- 10 USB 2.0 and 4 USB 3.0 ports
- 6 SATA-600 with RAID 0/1/5/10

Display

Chipset	Intel® HD Graphics
Memory Size	TBD
Display Interface	1 x DVI-I

Packing List

Standard

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

Cable

Part Number	Description	Qty
593826A0000E	SATA signal cable 500 mm	1

Ordering Information

Standard

SHB140DGGGA (P/N: TBD)	LGA1151 socket PICMG 1.3 full-size CPU card with DVI-I, 2 GbE LANs and audio
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I/O

MIO	1 x PS/2 keyboard and mouse 5 x RS-232 (COM 2-6) 1 x RS-232/422/485 (COM 1), mode selection by SW 2 x Smart fan for system Fan 1/Fan 2
RIO	2 x RJ-45, 1 x DVI-I, 2 x USB 3.0
SATA	6 x SATA-600, support RAID 0/1/5/10
Hardware Monitoring	Detect CPU/system temperature, voltage and fan speed
Ethernet	1st port as 10/100/1000 Mbps supports WOL, RPL/PXE Boot ROM with Intel® i219LM (AMT 11 supported) 2nd port as 10/100/1000 Mbps supports WOL, RPL/PXE Boot ROM with Intel® i211AT
Audio	1 x HD Codec audio as MIC-in/Line-in/Line-out/Speaker-out with audio kit AX93242 (optional)
USB	10 x USB 2.0, 2 x USB 3.0
SMBus	N/A
TPM	Infineon SLB9635 for trusted platform (optional)

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