Kabylake-U Mini-ITX Motherboard
Intel® Core™ i7 - 7600U (2.80GHz) + 8GB DDR4
SMB-I76U01-LLVA
Intel® Core™ i5 - 7300U (2.60GHz) + 8GB DDR4
SMB-I73U01-LLVA
Intel® Celeron® 3965U (2.20GHz) + 8GB DDR4
SMB-C39U01-LLVA

This product is the Mini-ITX mother board with M.2 slot.

It adopts Seventh-generation Intel® Core i7/i5/Celeron Processor and DDR4 SDRAM memory with up to 32GB can be equipped.

In addition, a variety of interface such as dual-LAN, USB3.0, Displayport, DVI-D, and RS-232C are provided.

Embedded-type CPU have been adopted. The use of readily available parts ensures the ease of the use of the product. In addition, the use of Contec-customized BIOS allows support to be provided at the BIOS level.

* The contents in this document are subject to change without notice.
* Visit the CONTEC website to check the latest details.
* The information in the data sheets is as of July, 2022.

Features

- Seventh-generation Kabylake-U processor adopted
Core i7-7600U, i5-7300U, Celeron-3965U have been adopted. It saves power consumption and also provides high computing and graphic performances. Embedded-type CPU makes the stable supply possible.

- M.2 slot realizes high-speed data transfer
One slot of the latest interface, M.2 (Key M), is equipped to transfer data with high-speed.
The product can be used according to user's purposes with high-speed M.2 SSD for OS, and HDD for data storage.

- Fan-less design reduces maintenance work
The product is fanless to ensure a totally spindleless design that simplifies maintenance, relieving the concern about dust or foreign matter to get into the product. Moreover, along with minimized use of degrading parts greatly reduce maintenance work.

- A wide range of power supplies (10.8 - 31.2VDC) supported
As the product supports a wide range of power (10.8 - 31.2VDC), it can be used in a variety of power environments. The separately available AC adapter adds support for 100 - 240VAC power.

- Major types of peripherals are supported with rich interfaces
It has a variety of extended interface such as DVI-D x 1, Displayport×1, 1000BASE-T x 2, USB3.0 x 4, USB2.0 x 4, and serial (RS-232C) x 3.

Packing List

Mother Board... 1

Product Guide... 1

IPC Precaution List... 1

Warranty Certificate... 1

Serial Number Label... 1

Specifications

Function Specifications

Model		SMB-I76U01-LLVA	SMB-I73U01-LLVA	SMB-C39U01-LLVA
CPU		Intel® Core™ i7 Processor 7600U (2.80GHz)	Intel® Core™ i5 Processor 7300U (2.60GHz)	Intel® Celeron® Processor 3965U (2.20GHz)
BIOS		BIOS (mfd. by AMI)		
Memory		260 pin SO-DIMM x 2, 32GB(Max.) (One slot is equipped with 8GB memory) PC4-17000 (DDR4-2133) (ECC not supported)		
Graphic		Intel® HD Graphics 620 (built-in CPU)		Intel® HD Graphics 610 (built-in CPU)
		DVI-D (25 pin DVI-D connector) x 1, DisplayPort x 1		
System resolution	DVI-D	800 x 600, 1,024 x 768, 1,152 x 864, 1,280 x 600, 1,280 x 720, 1,280 x 800, 1,280 x 960,1,280 x 1,024, 1,360 x 768, 1,366 x 768, 1,400 x 1,050, 1,440 x 900, 1,600 x 900,1,600 x 1,200, 1,920 x 1,080, 1,920 x 1,200 (16,770,000 colors)		
	DisplayPort	800 x 600, 1,024 x 768, 1,152 x 864, 1,280 x 600, 1,280 x 720, 1,280 x 800, 1,280 x 960, 1,280 x 1,024, 1,360 x 768, 1,366 x 768, 1,400 x 1,050, 1,440 x 900, 1,600 x 900, 1,600 x 1,200, 1,680 x 1,050, 1,790 x 1,344, 1,856 x 1,392,1,920 x 1,080, 1,920 x 1,200, 1,920 x 1,440, 2,048 x 1,152, 2,048 x 1,536, 2,560 x 1,440, 2,560 x 1,600, 2,560 x 1,920, 2,560 x 2,048, 3,840 x 2,160 (16,770,000 colors)		
Audio		HD Audio compliant LINE OUT x 1, LINE IN x 1, MIC IN x 1 (φ3.5 Stereo mini jack) Front audio x 1 (pin header connector x 1)		
SATA		Serial ATA 3.0 compliant support x 2		
LAN		Intel I210IT Controller, 1000BASE-T/100BASE-TX/10BASE-T RJ-45 Controller x 2 (Wake On LAN support)		
USB		USB 3.0 compliant 4 port (TYPE-A connector x 4) USB 2.0 compliant 4 port (TYPE-A connector x 2, pin header connector x 2)		
Serial		RS-232C 3port (9pin D-SUB connector [male] x 1, pin header connector x 2) Baud rate : 50 - 115,200bps		
Extended slot		PCI-Express x4 (Gen3) slot x 1 M.2(SATA/PCIE, Type2242, Key M) slot x 1		
General-purpose I/O		Opto-coupler isolated type 3 channels for input and output each (controllable by API), pin header connector One of output channels can be used for WDT output, one of input channels can be used for remote-reset or remorte power-on.		
Hardware monitoring		Monitoring CPU temperature, board temperature, power voltage		
Watchdog timer		Software programmable ,255 level (1sec - 255sec) Time up allows reset or shutdown.		
RTC/CMOS		Lithium backup battery life: 10 years or more. The real-time clock is accurate within ±3 minutes (at 25°C) per month		
Power Management		Power management setup via BIOS, Power On by Ring / Wake On LAN, Supports ACPI Power management		
Power supply	Rated input voltage	12 - 24VDC *2		
	Range of input voltage	10.8 - 31.2VDC		
	Power consumption	12V 10.7A, 24V 5.4A	12V 8.5A, 24V 4.2A	12V 8.3A, 24V 4.1A
	External device power supply capacity	SATA slot : +5V : 2A (1,000mA x 2) M.2 slot : +3.3V : 2.5A USB3.0 I/F : +5V : 3.6A (900mA x 4) USB2.0 I/F : +5V : 2.0A (500mA x 4) PCIe slot : +12V 2.1A +3.3V 3.0A +3.3VSB 0.3745A		
Physical dimensions (mm)		170(W) x 170 (H) (No protrusions)		
Weight		About 0.75kg		
Support OS		Windows 10		

*1   Use a power cable shorter than 3m.

Environment Requirements

Model	Description
Operating temperature	0 - 60°C, during forced air cooling (0.5m/s) 0 - 45/55°C, during natural air cooling *2
Storage temperature	-10 - 60°C
Operating humidity	10 - 90%RH (No condensation)
Floating dust particles	Not to be excessive
Corrosive gas	None
Standard	VCCI Class A, FCC Class A, CE Marking (EMC Directive Class A, RoHS Directive), UKCA

*2   For more details on this, refer to chapter3, Installation Requirements.

List of Options

HDD
PC-HDD100GS-2   2.5 inch SATA Hard Disk Drive 100GB
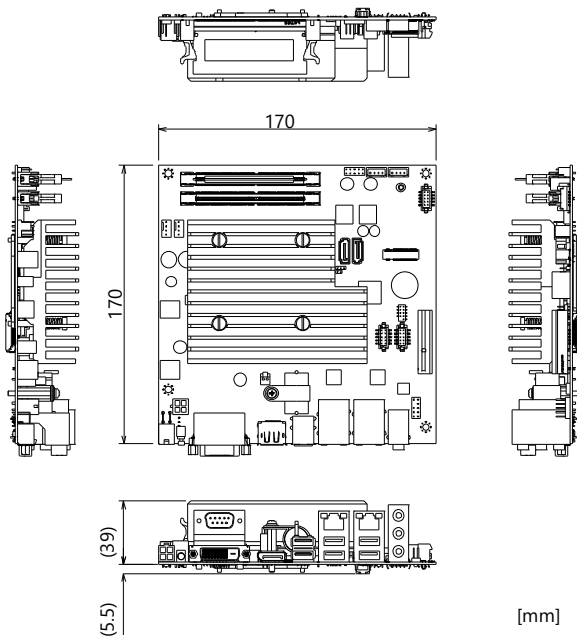
SSD
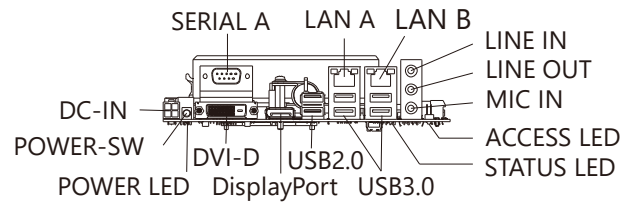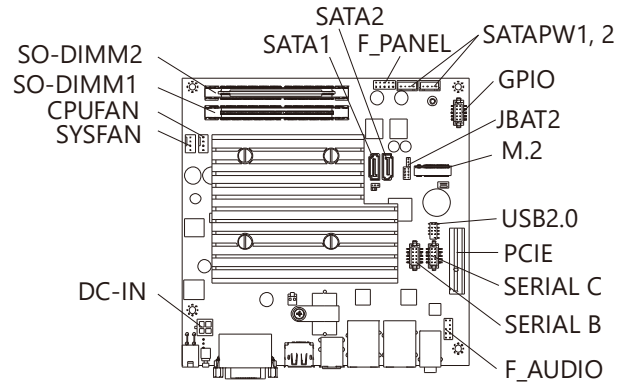SSD-256GS-2M   2.5 inch SSD 256GB, MLC

CAUTION
If a product other than our option is used, the normal operation may be impaired or the functions may be limited.

*   Visit the CONTEC website for the latest optional products.

Physical Dimension

170

170

(39)

(5.5)

[mm]

Nomenclature of Product Components

Component Function

Name	Function
POWER-SW	Power switch
POWER LED	Power ON display LED
ACCESS LED	Status LED
STATUS LED	HDD/SSD access display LED
DC-IN	DC power input connector
LINE IN	Line in (φ3.5 PHONE JACK)
LINE OUT	Line out (φ3.5 PHONE JACK)
MIC IN	Mike in (φ3.5 PHONE JACK)
F_AUDIO	Line out, Mike in pin-header
LAN A	Ethernet 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector
LAN B	Ethernet 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector
USB 3.0	USB3.0 port connector x 4
USB 2.0	USB2.0 port connector x 2, pin-header x 1
SERIAL A	Serial port A connector (9pin D-SUB, male)
SERIAL B	Serial port B connector (pin-header connector)
SERIAL C	Serial port C connector (pin-header connector)
DVI-D	Display (25 pin, female)
DisplayPort	Display (20 pin, female)
PCIE	PCI Express x 4 slot
M.2	M.2 slot
SATA1/SATA2	SATA slot
SATAPW1/SATAPW2	Power supply connector for SATA slot
GPIO	GPIO connector
F_PANEL	Front panel I/F connector
JBAT2	ROM clear pin header
SO-DIMM1/SO-DIMM2	SO-DIMM slot
CPUFAN	CPU fan connector
SYSFAN	System fan connector

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