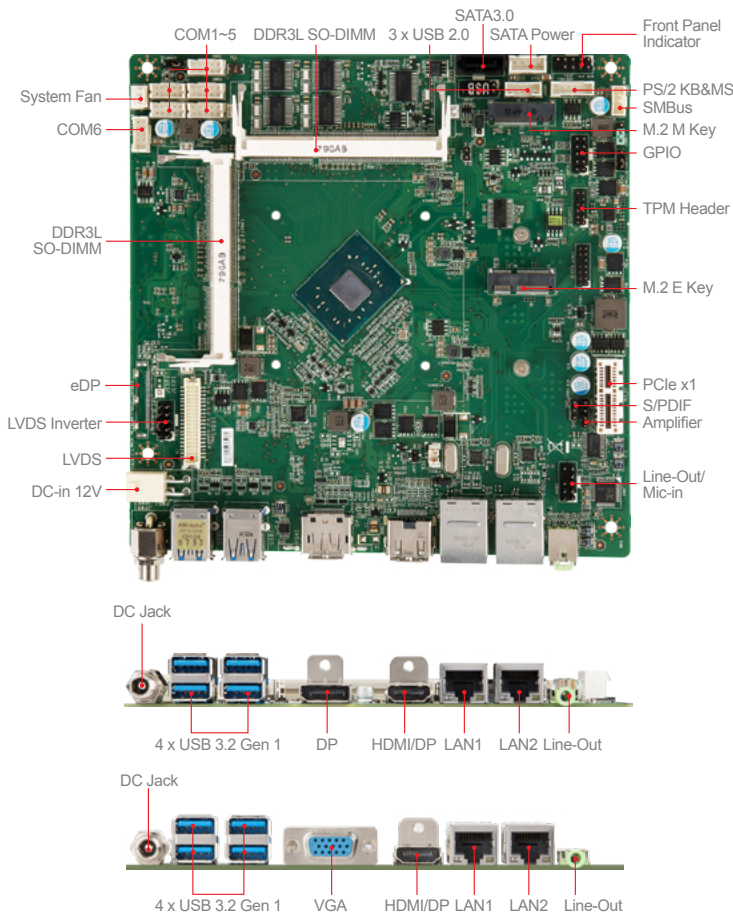


MS-98J0

Mini-ITX with Intel® Apollo Lake SoC Series for Fanless, Low-Profile & Multi-Displays Solution

NEW



Features

- Intel® Apollo Lake/Apollo Lake-I Series SoC
- 2 DDR3L 1866MHz SODIMM slots up to 8GB
- Triple independent displays : VGA (DP by option), HDMI (DP by option), LVDS (eDP by option)
- 2 GbE LAN with RJ-45
- 1 PCIe x1 (Gen 2), 1 M.2 E Key slots
- M.2 M Key, 1 SATA 3.0 for storage
- 4 USB 3.2 Gen 1, 3 USB 2.0, 6 COM (1 RS485), GPIO, PS/2, Audio, S/PDIF, System FAN
- Onboard TPM 2.0 (by option)
- SMBus, Chassis Intrusion
- DC-IN 12V

Ordering Information

Part Number	Description
919-98J0-103	MS-98J0 10 Intel Apollo Lake-I E3940, F1 stepping, DP2+HDMI+LVDS, 2*DDR3L SO-DIMM, 2*LAN, 1*SATA-3.0, Audio, 2*M.2 Slot, 4*USB 3.2 Gen 1, 3*USB 2.0, DC-in12V
919-98J0-104	MS-98J0 10 Intel Apollo Lake J3455, F1 stepping, VGA+HDMI+LVDS, 2*DDR3L SO-DIMM, 2*LAN, 1*SATA-3.0, Audio, 2*M.2 Slot, 4*USB 3.0, 3*USB 2.0, DC-in12V
919-98J0-105	MS-98J0 10 Intel Apollo Lake N3350, F1 stepping, DP2+HDMI+LVDS, 2*DDR3L SO-DIMM, 2*LAN, 1*SATA-3.0, Audio, 2*M.2 Slot, 4*USB 3.0, 3*USB 2.0, DC-in12V

Packing List

Part Number	Description	Quantity
K1D-1012115-V03	SATA Cable with Power, 230mm	1
E21-98J0010-C22	I/O SHIELDING	1

Specifications

Processor	CPU	Intel® Celeron® Processor J3455, QC, 10W	Intel® Celeron® Processor N3350, DC, 6W	Intel® Atom™ x5 Processor E3940, QC, 9.5W
	Frequency	J3455, 1.5 GHz, up to 2.3 GHz	N3350, 1.1 GHz, up to 2.4 GHz	E3940, 1.6 GHz, up to 1.8 GHz
	L2 Cache	2MB		
	CPU Type	BGA		
	Chipset	Integrated in SoC		
	BIOS	AMI		
Memory	Technology	Dual-channel DDR3L 1866 MHz		
	Max. Capacity	Up to 8GB		
	Socket	2 x 204-pin SO-DIMMs		
	Controller	Intel® HD Graphics		
Display	Graphic Memory	Depends on CPU		
	LVDS	1 x Dual channel 18/24-bit		
	eDP	N/A (by option)		
	VGA	1	N/A (by BOM option)	
	DVI	N/A		
	HDMI	1		
	DisplayPort	N/A (by option)	1	
	Multiple Display	3 independent displays		
	Display Interface	LVDS up to 1920 x 1200 @60 Hz eDP up to 4096 x 2160 @60Hz HDMI up to 3840 x 2160 @30Hz DP up to 4096 x 2160 @60Hz VGA up to 1920 x 1080 @60Hz		
	Ethernet	Controller	2 x Realtek® RTL8111H-CG GbE LAN	
Audio	Controller	Realtek® ALC887-VD2-CG HD Audio Codec		
Super I/O	Controller	Fintek F81867D-I		
H/W Monitor	Watchdog Timer	256-level Watchdog Timer		
	Smart Fan	Yes		
TPM	Controller	Pin header (default) Infineon SLB9665TT 2.0 (by BOM option)		
	I/O Interface	USB	3 x USB 2.0 (internal) 4 x USB 3.2 Gen 1 (rear)	
Serial		6 x COM ports (internal) COM1: RS-232/422/485, 0V/5V/12V COM2-6: RS-232, w/o Power		
Parallel		N/A		
PS/2		1 (pin header)		
GPIO		8-bits (4 x GPI; 4 x GPO), 5V		
PCIe x 16		N/A		
Expansion Slot	PCIe x 4	N/A		
	PCIe x 1	1		
	PCI	N/A		
	M.2	1 x M Key (SATA 3.0), 2242 1 x E Key (PCIe x1, USB2.0), 2230		
	Mini-PCIe	N/A		
	Storage	SATA	1 x SATA 3.0	
Power Supply	DC	DC-in 12V		
	ATX	N/A		
Environment	Operating Temperature	-10 ~ 60°C		
	Operating Humidity	10 ~ 90%, non-condensing		
	Storage Temperature	-20 ~ 80°C		
	Storage Humidity	10 ~ 90%, non-condensing		
Form Factor	Dimensions	170 x 170mm (Mini-ITX)		
	Weight	0.37 kg		
Certification	EMC	FCC, CE, RCM, VCCI, BSMI		
Software Platform	OS Support	Windows 10 IoT Enterprise LTSC/SAC 1809 (64-bit, RS5) Linux Fedora 25 (by request) Linux Ubuntu 16.04 (by request)		

Optional Item

Part Number	Description
K14-1009062-V03	COM Port Cable, 250mm
K14-1018003-V03	COM port cable, 300mm
K1B-3008012-E06	USB 2.0 Cable, 330mm