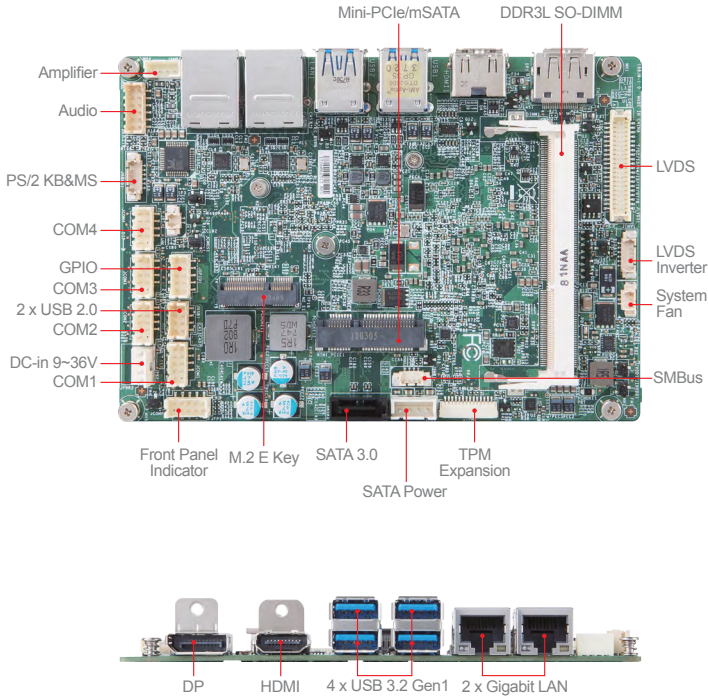


MS-98J8

3.5" SBC with Intel® Apollo Lake/Apollo Lake-I for Fanless, Ultra Low-Power, Wide Voltage Range & High-Performance Solution



Features

- Intel® Apollo Lake/Apollo Lake-I Series SoC
- DDR3L 1866/1600 MHz SODIMM Slot up to 8GB
- Triple independent displays: DP, HDMI, LVDS
- 2 GbE LAN with RJ-45
- 1 M.2 E Key, Mini-PCIe (Full size, with mSATA) Slot
- SATA 3.0 for storage
- 4 USB 3.2 Gen 1, 2 USB 2.0, 4 COM (1 RS-485), GPIO, PS/2, Audio
- Wide Voltage DC-IN 9~36V

Ordering Information

Part Number	Description
919-98J8-003	MS-98J8\609-98J8-030\809-98J8-002 VER 1.0 OPT:E Intel Apollo Lake-I E3940, F1 stepping, DDR3L, HDMI+LVDS+DP+SATA3.0+2*L AN+1*M.2+1*Mini-PCIe (with Msata)+2*USB2.0+4*USB3.0+4*COM, Non-WT DC-in 9V~36V, Single
919-98J8-005	MS-98J8\ 609-98J8-050 \809-98J8-005 VER 1.0 OPT:F Intel Apollo Lake J3455, F1 stepping, DDR3L, HDMI+LVDS+DP+SATA3.0+2*LA N+1*M.2+1*Mini-PCIe (with mSATA)+2*USB2.0+4*USB3.0+4*COM, Non-WT DC-in 9V~36V, Single
919-98J8-006	MS-98J8\609-98J8-060\809-98J8-005 VER 1.0 OPT:H Intel Apollo Lake N3350 F1 stepping, DDR3L, HDMI+LVDS+DP+SATA3.0+2*LA N+1*M.2+1*Mini-PCIe (with mSATA)+2*USB2.0+4*USB3.0+4*COM, Non-WT DC-in 9V~36V, Single
919-98J8-008	MS-98J8\609-98J8-100\809-98J8-006 VER 1.1 Intel Apollo Lake J3455, F1 stepping, DDR3L, HDMI+LVDS+DP+SATA3.0+2*LAN+1*M.2+1*Mini-PCIe (with mSATA)+2*USB2.0+4*USB3.0+4*COM, DC-in 9V~36V single for channel
919-98J8-102	MS-98J8\ 609-98J8-050 \809-98J8-105 VER 1.0 OPT:F Intel Apollo Lake J3455, F1 stepping, DDR3L, HDMI+LVDS+DP+SATA3.0+2*LA N+1*M.2+1*Mini-PCIe (with mSATA)+2*USB2.0+4*USB3.0+4*COM, Non-WT DC-in 9V~36V, Bulk
919-98J8-103	MS-98J8\609-98J8-030\809-98J8-105 VER 1.0 OPT:E Intel Apollo Lake-I E3940, F1 stepping, DDR3L, HDMI+LVDS+DP+SATA3.0+2*L AN+1*M.2+1*Mini-PCIe (with mSATA)+2*USB2.0+4*USB3.0+4*COM, Non-WT DC-in 9V~36V, Bulk
919-98J8-104	MS-98J8\609-98J8-060\809-98J8-105 VER 1.0 OPT:H Intel Apollo Lake N3350, F1 stepping, DDR3L, HDMI+LVDS+DP+SATA3.0+2*LA N+1*M.2+1*Mini-PCIe (with mSATA)+2*USB2.0+4*USB3.0+4*COM, Non-WT DC-in 9V~36V, Bulk

Packing List

Part Number	Description	Quantity
K14-1009062-V03	COM PORT Cable, 250mm	1
K1B-3008067-V03	USB Cable, 150mm	1
K1D-1012064-V03	SATA Cable with Power, 200mm	1
K1G-3004069-V03	DC Power Cable, 150mm	1

Specifications

Processor	CPU	Intel® Pentium™ N4200 Processor, QC, 6W Intel® Celeron® N3350 Processor, DC, 6W Intel® Celeron® Processor J3455, QC, 10W Intel® Atom™ X5-E3940 Processor, QC, 9.5W Intel® Atom™ X5-E3930 Processor, DC, 6.5W
	Frequency	N4200, 1.1 GHz, up to 2.5 GHz N3350, 1.1 GHz, up to 2.4 GHz J3455, 1.5 GHz, up to 2.3 GHz E3940, 1.6 GHz, up to 1.8 GHz E3930, 1.3 GHz, up to 1.8 GHz
	L2 Cache	2M
	CPU Type	BGA
	Chipset	Integrated in SoC
Memory	BIOS	AMI
	Technology	Single Channel for DDR3L 1866/1600 MHz
	Max. Capacity	Up to 8GB
	Socket	1 x 204pin SO-DIMM
Display	Controller	Intel® HD Graphics
	Graphic Memory	Depends on CPU
	LVDS	Dual channel 18/24-bit
	eDP	N/A
	VGA	N/A
	DVI	N/A
	HDMI	1
Ethernet	Controller	2 x Realtek® RTL8111H GbE LAN
	Controller	Realtek® ALC887 HD Audio Codec
	Controller	Fintek F81867AD-I
	Watchdog Timer	256-level Watchdog Timer
	Smart Fan	Yes
TPM	Controller	Pin header (Default) Infineon SLB9665TT 2.0 (by BOM option)
	USB	2 x USB 2.0 (internal) 4 x USB 3.2 Gen 1 (rear)
I/O Interface	Serial	4 x COM ports (Internal) COM1: RS-232/422/485, 0V/5V/12V COM2~4: RS-232
	Parallel	N/A
	PS/2	1 (wafer connector)
	GPIO	8-bit (4 x GPI; 4 x GPO), 5V
	PCE x 16	N/A
Expansion Slot	PCE x 4	N/A
	PCE x 1	N/A
	PCI	N/A
	M.2	1 x M.2 E key (PCIe x1, USB 2.0), 2230
Storage	Mini-PCIe	1 x Full-size (w/ mSATA)
	SATA	1 x SATA 3.0
	IDE	N/A
	eSATA	N/A
Power Supply	CFast	N/A
	mSATA	1 (Shared with Mini-PCIe)
	CompactFlash	N/A
Environment	DC	DC-in 9~36V
	ATX	N/A
	Operating Temperature	-10 ~ 60°C Note: Thermal w/ Airflow:0.7m/s
Form Factor	Operating Humidity	10 ~ 90%, non-condensing
	Storage Temperature	-20 ~ 80°C
	Storage Humidity	10 ~ 90%, non-condensing
Certification	Dimensions	146 x 102 mm (3.5")
	Weight	0.33 kg
Software Platform	EMC	CE, FCC Class B, BSMI, VCCI, RCM
	OS Support	Windows 10 IoT Enterprise LTSC/SAC 1809 (64-bit, RS5) Linux (Support by request)

Optional Item

Part Number	Description
E31-0806190-K08	Heatspreader for Apollo Lake
E31-0806191-K08	Heatspreader for Apollo Lake-I