

## Features

- 13th/12th Gen Intel® Core™ i9/i7/i5/i3 and Pentium® / Celeron® Processors
- 2x **DDR5** DIMM sockets, Max. 64GB
- Intel® processor integrated graphics supports HDMI (2.0b), DVI-D and 2x DisplayPort(1.4) (DP++)
- Dual Intel 2.5G LAN
- 4x USB 3.2, 2x USB 3.1, 2x USB 2.0, 4x COM, 4x SATA III
- 1x PCI-E (x16) [Gen.5.0], 1x PCI-E (x4) [Gen.4.0], 1x PCI-E (x4) [Gen.3.0]
- 4x M.2 (B-Key, E-Key and 2x M-Key)
- Watchdog timer, Digital I/O, iAMT(16.1), fTPM

## Specifications

CPU Socket	LGA1700
CPU	13th/12th Gen Intel® Core™ i9/i7/i5/i3 and Pentium® / Celeron® Processors
PCH	MB998AF-R : Intel® R680E PCH (support ECC) MB998AF-Q : Intel® Q670E PCH MB998AF-W : Intel® W680 PCH (not IoTG sku)
Memory	2x <b>DDR5</b> DIMM sockets, supports DDR5-4800/5600 memory module, Max. 64GB
BIOS	AMI
Watchdog Timer	256 levels
H/W Monitor	Yes
Storage Device Interface	SATA III & NVMe
Expansion Slots	1x PCI-E (x16) [Gen.5.0], 1x PCI-E (x4) [Gen.4.0], 1x PCI-E (x4) [Gen.3.0]
Mini Type Slots	2x M.2 (M-Key, type:2280, PCI-E) 1x M.2 (E-Key, type:2230, USB 2.0 + PCI-E) 1x M.2 (B-Key, type:3052, USB 3.1 + PCI-E)
Graphics Controller	13th Gen Intel® Core™ i7/i5/i3 processor integrated
Video Output	1x HDMI (2.0b) + 2x DisplayPort (1.4b) (DP++) + DVI-D
Ethernet	LAN 1: Intel® I226LM, supports 2.5G and iAMT LAN 2: Intel® I226V, supports 2.5G only
I/O Chipset	Fintek F81964D-I
Serial Post	4x COM port : 2x RS232/422/485 + 2x RS232
USB 2.0	2x USB 2.0 via pin-header
USB 3.X	4x USB 3.2(10Gbps), 2x USB 3.1(5Gbps) @edge connector
Serial ATA	4x SATA III
Audio	Built-in HD Audio controller + Realtek ALC888S with 7.1 channels
TPM	Supports fTPM
Others	Digital I/O (4-in/4-out) , Watchdog timer, SIM slot
Dimensions (L x W)	244mm x 244mm (9.6" x 9.6")
Power Consumption	Intel® Core™ i7-13700 2.10GHz/w/2x 32GB DDR5 5600 +12V:20.09A +5V:8.76A +3.3V:4.73A +5VSB:0.78A

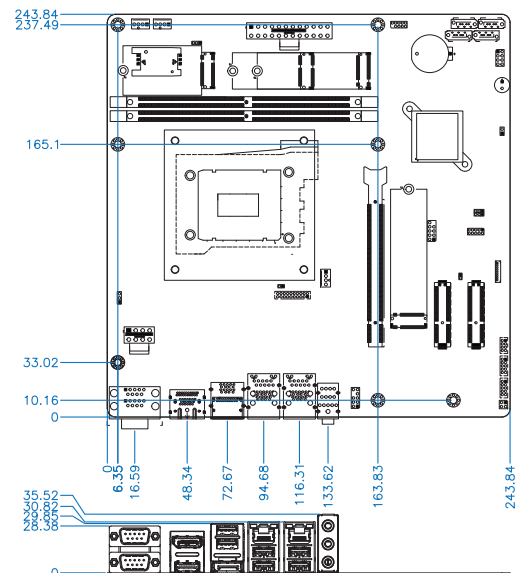
Operating Temperature	0°C~60°C ( 32°F~140°F)
Storage Temperature	-20°C~80°C (-4°F~176°F)
Relative Humidity	90% (non-condensing @60°C)

## Ordering Information

MB998AF-R	LGA1700 R680E (support ECC) MicroATX Motherboard with 1x HDMI, 2x DisplayPort, 1x DVI-D, dual 2.5GbE, 4x SATA, RAID, iAMT (16.1), fTPM
MB998AF-Q	LGA1700 Q670E MicroATX Motherboard with 1x HDMI, 2x DisplayPort, 1x DVI-D, dual 2.5GbE, 4x SATA, RAID, iAMT (16.1), fTPM
MB998AF-W (Not IoTG sku)	LGA1700 W680 MicroATX Motherboard with 1x HDMI, 2x DisplayPort, 1x DVI-D, dual 2.5GbE, 4x SATA, RAID, iAMT (16.1), fTPM

\*CPU List can refer to P.3-1 & P.3-2

## Dimensions and Drawing



## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Single Board Computers](#) category:*

*Click to view products by [Ibase](#) manufacturer:*

Other Similar products are found below :

[EMB-IB897-I45P](#) [MVME61006E-2173R](#) [5962-8872609LA](#) [BLKNUC7I3DNHNC1978015](#) [IOT-LS1012A-OXALIS](#) [NITX-300-ET-DVI](#)  
[UPN-EHLX4E-A10-0432](#) [USB HUB HAT](#) [BANANA PI BPI-P2 PRO](#) [ROCK 4C+](#) [ROCK 5B - 8GB](#) [BPI-R2 PRO](#) [PCE-5129G2-00A3](#) [PCA-](#)  
[6029G2-00A3](#) [PCE-5129G2-00A3U](#) [AIMB-706G2-00A3](#) [HUMMINGBOARD-I2EX BASE + WIFI/BT](#) [HUMMINGBOARD-I4 PRO +](#)  
[WIFI/BT](#) [VAB-600-B](#) [RT5350F-OLINUXINO-EVB](#) [MITX-440-DVI-2E](#) [NITX-315-DEVKIT](#) [A13-SOM-512](#) [AM3359-SOM-EVB-IND](#)  
[1996](#) [AIMB-223G2-S0A1E](#) [AIMB-562VG-GRA1E](#) [MIO-5270DZ-2GS0A1E](#) [PCE-5126QVG-00A1E](#) [PCE-5125QG2-00A1E](#) [MIO-5251E-](#)  
[S3A1E](#) [MIO-2261Z-2GS6A1E](#) [SIMB-M22-2G2S0A1E](#) [ASMB-823I-00A1E](#) [MIO-5251J-U0A1E](#) [AIMB-502WG2-00A1E](#) [BBB01-SC-505](#)  
[IMB-M43](#) [AmITX-BT-I-E3845](#) [UPS-APLC2-A10-0432](#) [PICO300VGA-N3060](#) [PICO300HGA-N3710](#) [W65C265QBX](#) [DFR0444](#) [DFR0419](#)  
[UPS-APLP4-A10-0864](#) [UPS-APLP4-A10-0432](#) [UPS-APLP4-A10-08128](#) [DFR0418](#) [BBBLUE](#)