**Processador Intel Core i3-13100**

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| **Placa Mae Asus Prime Z690-p** |
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| **PLACA MAE ASUS TUF GAMING B660M-PLUS D4** |
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| **PLACA MAE ASUS TUF GAMING Z690-PLUS D4** |
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* **Modelo**
* PRIME Z690-P WIFI
* **CPU**

Intel® Socket LGA1700 for 13th Gen Intel® Core™ Processors & 12th Gen Intel® Core™, Pentium® Gold and Celeron® Processors\*  
Supports Intel® Turbo Boost Technology 2.0 and Intel® Turbo Boost Max Technology 3.0\*\*  
\* Refer to www.asus.com for CPU support list.  
\*\* Intel® Turbo Boost Max Technology 3.0 support depends on the CPU types.

* Chipset Intel® Z690 Chipset
* **Memória**

4 x DIMM, Max. 128GB, DDR5 6000(OC)/ 5800(OC)/ 5600(OC)/ 5400(OC)/ 5200(OC)/ 5000(OC)/ 4800 Non-ECC, Un-buffered Memory\*  
Dual Channel Memory Architecture  
Supports Intel® Extreme Memory Profile (XMP)  
**OptiMem II**  
\* Supported memory types, data rate(Speed), and number of DRAM module vary depending on the CPU and memory configuration, for more information refer to www.asus.com for memory support list.

* **Gráficos**

1 x DisplayPort\*\*  
1 x HDMI®\*\*\*  
\*Graphics specifications may vary between CPU types. Please refer to www.intel.com for any updates.  
\*\* Support max. 4K@60Hz as specified in DisplayPort 1.4.  
\*\*\* Support 4K@60Hz as specified in HDMI 2.1.

* Slots de Expansão

**Intel® 13th & 12th Gen Processors\***  
1 x PCIe 5.0/4.0/3.0 x16 slot  
**Intel®Z690 Chipset\*\***  
1 x PCIe 4.0/3.0 x16 slot (supports x4 mode)  
2 x PCIe 3.0 x16 slots (support x4 mode)  
1 x PCIe 3.0 x1 slot  
\* Please check PCIe bifurcation table in  support site.  
\*\* Supports Intel® Optane Memory H Series on PCH-attached PCIe slot

* Armazenamento

**Total supports 3 x M.2 slots and 4 x SATA 6Gb/s ports\*  
Intel® 13th & 12th Gen Processors\***  
M.2\_1 slot (Key M), type 2242/2260/2280/22110  (supports PCIe 4.0 x4 mode)  
**Intel® Z690 Chipset\*\***  
M.2\_2 slot (Key M), type 2242/2260/2280 (supports PCIe 4.0 x4 mode)  
M.2\_3 slot (Key M), type 2242/2260/2280/22110 (supports PCIe 4.0 x4 & SATA modes)  
4 x SATA 6Gb/s ports  
\* Intel® Rapid Storage Technology supports NVMe RAID 0/1/5, SATA RAID 0/1/5/10.  
\*\* Intel® Rapid Storage Technology supports Intel® Optane Memory H Series on PCH attached M.2 slots.

* Rede

1 x Realtek 2.5Gb Ethernet

Wireless & Bluetooth

Wi-Fi 6  
2x2 Wi-Fi 6 (802.11 a/b/g/n/ac/ax)  
Supports 2.4/5GHz frequency band  
Bluetooth v5.2"

* USB

**Rear USB (Total 6 ports)**  
1 x USB 3.2 Gen 2x2 port (1 x USB Type-C®)  
1 x USB 3.2 Gen 2 port (1 x Type-A)  
2 x USB 3.2 Gen 1 ports (2 x Type-A)  
2 x USB 2.0 ports (2 x Type-A)  
**Front USB (Total 9 ports)**  
1 x USB 3.2 Gen 1 connector (supports USB Type-C®)  
2 x USB 3.2 Gen 1 headers support additional 4 USB 3.2 Gen 1 ports  
2 x USB 2.0 headers support additional 4 USB 2.0 ports\*  
\* USB\_E1 port, USB\_E2 port, USB\_E3 port and USB\_E4 port share the bandwidth.

Áudio

Realtek 7.1 Surround Sound High Definition Audio CODEC  
- Supports: Jack-detection, Multi-streaming, Front Panel Jack-retasking  
- Supports up to 24-Bit/192 kHz playback  
**Audio Features**  
- Audio Shielding  
- Rear optical S/PDIF out port  
- Premium audio capacitors  
- Dedicated audio PCB layers

Portas I/O no painel Traseiro

1 x USB 3.2 Gen 2x2 port (1 x USB Type-C®)  
1 x USB 3.2 Gen 2 port (1 x Type-A)  
2 x USB 3.2 Gen 1 ports (2 x Type-A)  
2 x USB 2.0 ports (2 x Type-A)  
1 x DisplayPort  
1 x HDMI® port  
1 x Wi-Fi Module  
1 x Realtek 2.5Gb Ethernet port  
5 x Audio jacks  
1 x Optical S/PDIF out port  
1 x PS/2 Keyboard/Mouse combo port

* Painel Interno

**Fan and Cooling related**  
1 x 4-pin CPU Fan header  
1 x 4-pin CPU OPT Fan header  
1 x 4-pin AIO Pump header  
3 x 4-pin Chassis Fan headers  
**Power related**  
1 x 24-pin Main Power connector  
1 x 8-pin +12V Power connector  
1 x 4-pin +12V Power connector  
**Storage related**  
3 x M.2 slots (Key M)  
4 x SATA 6Gb/s ports  
**USB**  
1 x USB 3.2 Gen 1 connector (supports USB Type-C®)  
2 x USB 3.2 Gen 1 headers support additional 4 USB 3.2 Gen 1 ports  
2 x USB 2.0 headers support additional 4 USB 2.0 ports  
**Miscellaneous**  
3 x Addressable Gen 2 headers  
2 x AURA RGB headers  
1 x Clear CMOS header  
1 x COM Port header  
1 x Front Panel Audio header (AAFP)  
1 x SPI TPM header (14-1pin)  
1 x 20-5pin System Panel header  
1 x Thunderbolt™ header

Recursos Especiais

**ASUS 5X PROTECTION III**  
- DIGI+ VRM (- Digital power design with DrMOS)  
- LANGuard  
- Overvoltage Protection  
- SafeSlot  
- Stainless-Steel Back I/O  
**ASUS Q-Design**  
- Q-DIMM  
- Q-Slot  
**ASUS Thermal Solution**  
- Flexible M.2 heatsink  
- VRM heatsink design  
**ASUS EZ DIY**  
- ProCool  
**AURA Sync**  
- AURA RGB headers  
- Addressable Gen 2 RGB headers

Recursos de Software

**ASUS Exclusive Software**  
Armoury Crate  
- AURA Sync  
- Fan Xpert 4  
AI Suite 3  
- Performance And Power Saving Utility  
 TurboV EVO  
 EPU  
 DIGI+ VRM  
ASUS CPU-Z  
MyASUS  
Norton Anti-virus software (Free Trial version)  
WinRAR  
**UEFI BIOS**  
ASUS EZ DIY  
- ASUS CrashFree BIOS 3  
- ASUS EZ Flash 3  
- ASUS UEFI BIOS EZ Mode

BIOS

192 (128+64) Mb Flash ROM, UEFI AMI BIOS

Gerenciamento

WOL by PME, PXE

Acessórios

**Cables**  
2 x SATA 6Gb/s cables  
**Miscellaneous**  
1 x ASUS Wi-Fi moving antenna  
1 x I/O Shield  
1 x M.2 Rubber Package  
2 x M.2 SSD screw packages  
**Installation Media**  
1 x Support DVD  
**Documentation**  
1 x User guide

Sistema Operacional

Windows® 11 64-bit , Windows® 10 64-bit

Formato

ATX Form Factor  
12 inch x 9.2 inch ( 30.5 cm x 23.4 cm )