Learn about AMD chip lines? Are they better than Intel chips?

What are AMD chips? Are AMD chips better than Intel chips? Let's find out with TipsMake in the article below.

Besides Intel, AMD is one of the largest chip manufacturing brands today. AMD chips are also preferred by many consumers because of their stable performance and low, affordable price. In the following article, let's learn more details about this chip line with TipsMake.

What are AMD chips?

AMD (Advanced Micro Devices) is the name of a brand that produces electronic components and chips based in the US. This is also the second largest CPU manufacturing brand in the world after Intel.

Picture 1 of Learn about AMD chip lines? Are they better than Intel chips?

AMD's chip lines are often designed with a proprietary structure to help this brand create a difference compared to its direct competitor, Intel. In addition to processor chips, AMD also produces discrete or integrated graphics processing units (GPUs) on CPUs to diversify product offerings and compete with NVIDIA.

AMD chips are processors manufactured by AMD with functions similar to CPU lines that we still see from Intel such as Core i3, Core i5, Core i7 or Core i9. AMD processors not only have the same power as Intel chips, but also save energy better and are affordable.

What is the graphics processing ability of AMD CPUs?

In addition to performance, AMD's chip lines are also highly appreciated for their ability to handle graphics and render images well.

1. Overclocking ability

In the popular segment, AMD chips show much better overclocking capabilities than Intel chips. For example, users can overclock AMD's A-Series APU chips for just **$45** . While for Intel, the cheapest chip capable of overclocking the processor is **the Intel Core i3-9350K** , which also has a price of nearly **$173** .

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However, in the opposite direction, for the high-end CPU segment, Intel **'scored'** completely. Because most of this brand's high-end chip lines are equipped with from **8 to 10 cores** for extremely impressive overclocking capabilities, even somewhat superior to AMD's chip lines.

2. Popularity and support

One of the biggest disadvantages of AMD chips is the lack of compatibility with many different computer components. For example, some motherboard or cooler options have limited functionality due to not being in the same socket as the AMD CPU.

Many AMD CPU coolers require users to purchase an additional **AM4 frame** to use with this brand's Ryzen chip line. However, in reality only a few AM4 frames are compatible with this chipset.

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In contrast to AMD, Intel chips are more appreciated by users because of their diversity, compatibility and high support for other parts in the computer. This also helps users save significant costs by not having to spend money to buy additional related components.

However, in recent years, Intel has fallen into difficulties due to supply shortages. While on the competitor side, AMD, this brand continuously launches many new chip lines such as Coffee Lake Refresh, Ryzen 3, Ice Lake, etc. Thanks to that, this brand continuously increases its widespread coverage and is recognized. more people choose.

AMD CPU chip lines

Currently, the AMD brand microprocessor line is divided into many types of chips as follows:

1. AMD Ryzen

AMD Ryzen is a low-cost CPU line in the popular segment of AMD. This chip is designed according to the Zen structure under a process from 14nm to 7nm. Up to 16 cores combined with 32 CPU threads for powerful performance while still saving energy.

This chip line is currently on the market with 4 different product lines including Ryzen 3, Ryzen 5, Ryzen 7 and Ryzen 9. Each product line will be designed to meet different usage needs. .

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For example, for Ryzen 3, this is the chip line with the cheapest price and moderate performance, so it is suitable for office workers and students. Ryzen 5 is in the mid-range segment with a slightly more powerful configuration that can meet average gaming and entertainment needs.

The Ryzen 7 chip is in the high-end segment with powerful performance that can help users handle all tasks smoothly and play better graphic games. Finally, the Ryzen 9 processor, this is AMD's highest-end chip with extremely high performance and super gaming capabilities suitable for professional gamers.

2. AMD Threadripper

This is AMD's highest-end processor line, designed with 16 cores and 32 threads for fast and smooth data processing speed. Support from AMD SenseMI technology helps greatly enhance chip performance.

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Besides, AMD also strongly equipped its **'child'** with the AMD Ryzen Master feature to help control and optimize power consumption to the lowest level.

Especially because it is designed according to the latest Zen architecture, AMD Threadripper will be a suitable choice for workstations, professional rendering, film and image editing,.

3. AMD Athlon

Similar to Ryzen, **Athlon** is also a chip line in the low-cost segment of AMD. This chip has 2 cores and 4 data streams with a clock speed of **3.2GHz** . Because it is a popular chip line, AMD Athlon's performance is not too strong but is still good enough to meet the basic needs of office, study and light gaming.

4. AMD Epyc

This is a high-end CPU line specifically for servers with a structure of 24 cores and 48 threads. Particularly different from the rest of the chip lines, **AMD Epyc** is designed based on the AMD Infinity Architecture, which consists of 8 threads for the processor core along with 1 thread for security and external communication.

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5. AMD FX

AMD FX is AMD's first chip line with a core with 8 cores and 8 processing threads for moderately stable performance. However, the downside of this chip is that it consumes a lot of power, so this chip line has now been discontinued and replaced by Ryzen CPUs.

Compare AMD chips and Intel chips

In fact, over the years, Intel and AMD chip lines have always been compared with each other in terms of processing ability, core count, number of threads, power consumption and price. Among them, CPU lines under the AMD brand are rated higher because of the following advantages:

1. **Cheaper price** : Compared to Intel chips in the same segment, AMD CPUs offer cheaper prices even though the performance is not inferior.
2. **Lower power consumption:** AMD's Ryzen CPU lines, because they are manufactured on the 7nm process, have lower power consumption than Intel chips.
3. **More cores and threads** : Normally, AMD chips will be designed with more cores and threads than Intel to increase core performance and better support multitasking for the machine.
4. **More powerful with integrated graphics card** : Ryzen AMD chipsets will come with Radeon Vega 10 GPU for about 1.6 times more powerful graphics processing ability than UHD Graphics 620 on the Kaby

Lake Refresh line.

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Although they have many outstanding advantages, AMD's processor lines still have a disadvantage: they often encounter some errors related to software conflicts. In addition, AMD CPUs often have clock speeds and performance compared to the chip line from Intel.

Meanwhile, for Intel CPUs, this processor line also has many advantages over AMD in the following two points.

1. **Graphics processing ability** : Intel CPUs have better graphics processing and image rendering capabilities than AMD chipsets. Therefore, the product will be a suitable choice for users working in graphic design, 2D, 3D,.
2. **Better driver optimization support:** Compared to AMD CPUs, Intel chips are more popular and widely used thanks to good compatibility with other drivers.

Below is a table comparing AMD and Intel chip lines based on 5 criteria:

Comparison criteria	AMD chips	Intel chips
Price	About $30 or more.	More expensive than AMD, about $45 or more.
Gaming performance	Low CPU performance, higher graphics performance.	High CPU performance, lower graphics performance.
Overclocking	The popular, mid-range line has an APU version that supports overclocking. While high-end overclocking lines are worse.	The popular, mid-range line has few overclocked versions. While high-end lines: extremely good overclocking.
Software and drivers	Integrated graphics card with higher performance (available on 2200G, 2400G chip lines).	Integrated graphics card has poorer performance.
Specifications and features	More cores, more threads, better multi-threaded performance.	Fewer threads, better single-threaded performance.

Which type of CPU should I choose?

With its widespread popularity, Intel chips will be a safe and suitable choice for regular users who do not understand too much about technology. Or if you are a professional gamer, you should choose an Intel CPU with a discrete graphics card to get the best gaming experience.

On the contrary, for the target group of students, office workers with basic usage needs such as online learning, surfing the web, typing, playing games, etc., the AMD chip line will be a suitable choice. More reasonable because of its moderate performance and low price.

In addition, this CPU line will also be an ideal companion for those who need to process more videos and render faster.

Epilogue

Above is everything you need to know about AMD chips as well as their advantages and disadvantages compared to competitor Intel. Depending on your usage needs and financial conditions, you can choose the chip line that best suits you.

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