

Intelligence is Your Edge

Powered by Intel



Intel® Panther Lake processors, built on Intel 18A process technology

Intel is advancing the future of computing with Panther Lake, its next-generation processor built on the advanced Intel 18A (1.8nm) process node. Designed for high-performance notebooks, Panther Lake features RibbonFET gate-all-around transistors and PowerVia backside power delivery, delivering significant efficiency and performance gains. As part of Intel's strategic push in AI-powered computing, Panther Lake showcases the company's commitment to innovation and process leadership. Meanwhile, Intel 18A represents a breakthrough in semiconductor manufacturing, integrating cutting-edge transistor and power delivery technologies.

Intel Product and Technology

Intel® PowerVia

As transistor density increases, mixed signal and power routing create congestion that can degrade performance. Intel Foundry's industry-first PowerVia technology relocates course pitch metals and bumps to the back side of the die and embeds nano-scale through-silicon vias (nano-TSVs) in every standard cell for efficient power distribution

Intel® RibbonFET

RibbonFET enables tighter current control, reducing power leakage and supporting chip miniaturization. It enhances performance per watt, lowers V_{min} , and improves electrostatics for better efficiency. With tunable ribbon widths and multiple V_t types, RibbonFET delivers superior adaptability and performance in advanced chip designs.

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Intel technologies may require enabled hardware, software or service activation.

No product or component can be absolutely secure.

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