

High-end materials in AI servers





Overview

High-end materials upstream are controlled by Japan, Taiwan, and South Korea. In March 2026, a supply chain move by AI leader NVIDIA sent ripples through the electronics industry. Their next-generation Rubin platform officially initiated supplier testing for M10, a new Copper Clad Laminate (CCL) material. Within this hardware ecosystem, printed circuit boards (PCBs) play a critical role as the structural foundation for electronic components and the provider of electrical. Selecting between M6, M7, and M8 is a balancing act of decibels per inch versus the total bill of materials. They enable high-speed signal transmission, high-power-density power delivery, and. PCB Demands for AI Servers: An Ultimate Challenge of Performance and Density The typical characteristics of AI servers define their core PCB requirements:.



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MLCC Market Polarizes in 1Q26 as Embodied AI Ignites

Demand for high-end MLCCs remains strong due to substantial investments in AI infrastructure, such as Nvidia's GB200/300 servers, and

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TWSC Officially Inaugurates Guangming Intelligent Manufacturing

Advanced Validation: High-Reliability Testing Capabilities for Leading Mainstream Platforms Catering to AI servers, data centers and intelligent terminals, the Guangming Intelligent

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Material Choices Behind High-Density GPU Servers

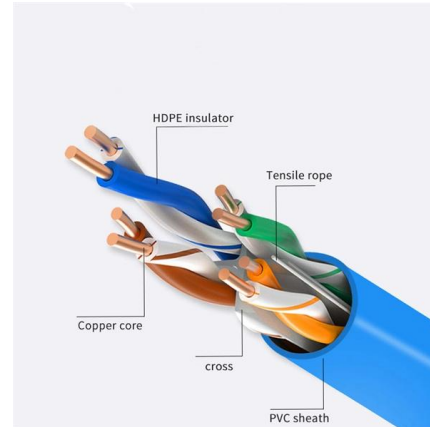
For platforms like aluminum4ai , the focus is not on claiming advanced material production, but on understanding how materials behave within real engineering systems.

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Inside the AI Hardware Boom: Servers, Substrates and

AI servers are supercomputers in a rack, and their rise is transforming the PCB industry. From hybrid HDI multilayers to supersized CoWoS substrates,



Taiwanese firms secure M9-grade CCL certifications as

In response to the global surge in large-scale AI computing power deployment, the usage and value of PCBs for AI servers have significantly

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Samsung Electro-Mechanics lifts FC-BGA prices on AI-driven shortage

Samsung Electro-Mechanics has raised prices for its high-end flip-chip ball grid array (FC-BGA) substrates as demand from artificial intelligence (AI) servers and high-performance computing

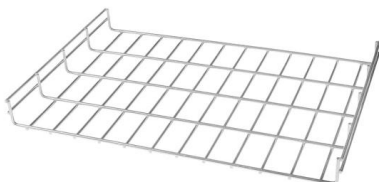
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Samsung Q4 2025: MLCC focus for AI, server and

Samsung Electro-Mechanics Q4 2025 results highlight stronger focus on high-value MLCCs for AI servers and automotive designs, with implications for

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Panasonic Industry will Double the



Production Capacity

The rise of generative AI has accelerated the need for high-speed, high-capacity communication hardware. MEGTRON materials, an industry

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Call Notes: Memory Market Supply Constraints and Rising Prices (Nov

Standard smartphones now typically include 12 GB DRAM modules in their bill of materials, with high-end configurations

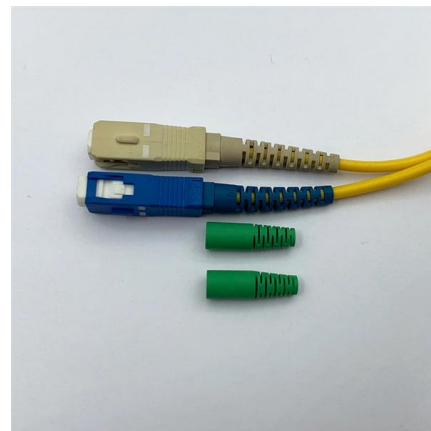
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RAM Shortage 2025: How AI Demand is Raising DRAM

An analysis of the 2025 RAM shortage. Learn how massive AI demand for HBM is straining the DRAM supply, leading to surging prices for PC, gaming, and server

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PCB Prices Jump 30% as AI Server Boom Strains Global Supply

A global Printed Circuit Board (PCB) supply chain crisis is escalating due to soaring AI server demand and raw material shortages, leading to significant price increases from major suppliers.

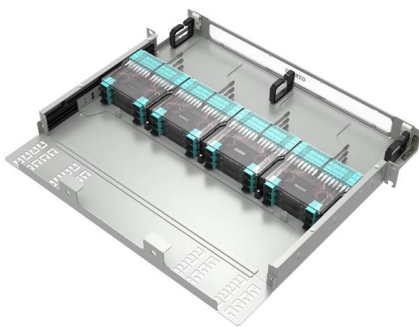
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Taiwan PCB makers vie for AI server market with new 2026 capacity

Research Insight: AI reshapes Taiwan's PCB industry around high-end capacity and materials
Allied Circuit sees server, IPC market growth boosting 2H26 outlook

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PCB Materials for AI Data Centers and High-Performance Servers:

That was an incredibly thorough technical overview of why the Panasonic MEGTRON series has become the backbone of high-performance computing. Your assessment of the "loss budget" being

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CCL price hikes to extend through 2026 with rising glass fiber and

Surging demand for high-end PCBs driven by AI servers and switches is intensifying supply imbalances for upstream materials. Industry sources said the rising cost of copper-clad

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How the PCB Industry is Leveraging T-Glass Materials

A price adjustment notice issued by global electronic-grade glass fiber leader Nittobo on August 1, 2025, underscored the profound impact of AI servers

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Scaling AI Data Center Power Delivery with Si, SiC, and GaN

1 Silicon: Can it meet the power demands of AI? While silicon has long been the foundation of power electronics, its physical limitations are increasingly apparent in high-performance, high-density

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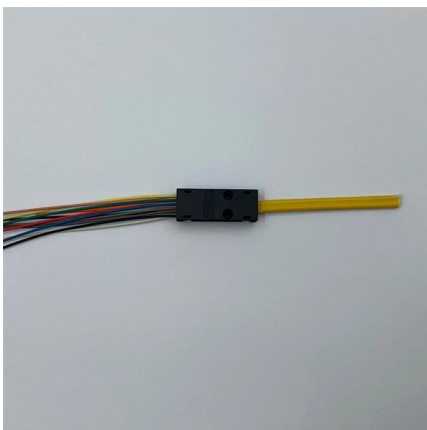
Ordering information

NO.	1	2	3	4	5	6
Model	SP1201	SP1202	SP1404	SP1601	SP1202	SP1604
Product name	SP1201 Panel	SP1202 Panel	SP1404 Panel	SP1601 Panel	SP1202 Panel	SP1604 Panel
Illustration						
HZ	1	2	4	1	2	4
Maximum number of lanes	144	288	576	144	288	576
Product size (including module and adapter)	482.8(27.1)194 mm	482.8(27.1)194 mm	482.8(27.1)117 mm	482.8(27.1)194 mm	482.8(27.1)194 mm	482.8(27.1)117 mm
Standard color code	RAL9005	RAL9005	RAL9005	RAL9005	RAL9005	RAL9005

PCBs: Powering AI Servers 2025

AI servers consume thousands of watts under heavy loads, generating immense heat. PCBs must employ high-thermal-conductivity materials

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AI Server Motherboard PCB Manufacturing: Mastering High-Speed

From the perspective of an expert deeply versed in high-speed materials and complex stack-up planning, this article will systematically dissect the core challenges and cutting-edge solutions in the

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Surging AI demand tightens supply of key PCB material

AI server PCB demand fuels fierce CCL material supply battle High-end PCB materials shortage looms as AI demand outpaces capacity

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AI Server PCB Demand Surge: Breakthroughs in High

High-frequency PCB and RF PCB solutions for aerospace, medical, and industrial applications. As Artificial Intelligence rapidly advances, the training

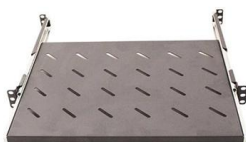
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US Stocks Are Forecast to Rise 6% in 2026

US stocks are expected to hit fresh record highs in the months ahead, according to Goldman Sachs Research, powered by ongoing growth in corporate earnings. What is the outlook for

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Webit Cabling

Top Taiwanese copper clad laminate producers signal fresh round of

Elite Material had previously signaled a new round of price hikes in the second quarter, averaging around 10%. The increases will mainly apply to CCL used in high-end applications such as

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Rubin Faces Delay Risks Amid Ongoing Supply Chain Adjustments

According to TrendForce's latest findings on AI servers, NVIDIA's high-end AI chip shipment mix is expected to change in 2026. The combined share of Hopper and Rubin series in

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Material Revolution: How Industry Partners Power Nvidia's Next

With the explosive growth of AI computing, PCB materials--particularly copper foils, glass fabrics, and copper-clad laminates (CCLs)--have become the most hotly contested resources

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AI Server PCB Materials and Processes

Within high-end AI server cabinets, five critical PCB boards--computing boards, switching boards, CPX boards, mid-boards, and backplanes--collectively form

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Taiwan substrate industry sees pricing upside on high-end supply

TAIPEI (Taiwan News) -- Taiwan's major substrate makers are expected to see stronger pricing momentum in the second half of the year, supported by tight high-end supply and continued

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Panasonic to Double the Capacity of MEGTRON Multi-Layer PCB Materials

Panasonic Industry Co., Ltd., a Panasonic Group company, has announced plans for a major expansion of its global production capacity for MEGTRON multi-layer circuit board materials.

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<https://www.frindel.es>