Perfect Grade

深圳华芯星半导体有限公司

CHINA CHIPS STAR SEMICONDUCTOR CO., LTD.

存储芯片

Memory Chip

Contents

01

Company Overview

Company Introduction

China Chips Star Semiconductor Co., Ltd. was founded in 2022, with its headquarters in Shenzhen and branches in Hong Kong, Nanjing and Singapore. It is a national high-tech and SRDI enterprises integrating R&D, packaging, testing, sales and services. It was one of the three semiconductor enterprises in Shenzhen recognized by the Ministry of Industry and Information Technology in 2023, and also the only enterprise in China that has received strategic investment from one of the world's top four wafer manufacturers.

China Chips Star Semiconductor Co., Ltd. provides a full range of storage solutions, focusing on high-end industrial grade, enterprise grade and automotive grade memory chips, and builds the professional memory chips brand- PG (Perfect Grade) .

Strategic Positioning

Realize key technologies to become independent and controllable global chip manufacturers.

Focus Areas

Focus on industrial and enterprise garde high-end AI memory chips

High Level R&D and Testing Teams

China Chips Star Semiconductor Co., Ltd., along with its packaging facility, operates an Industry-University-Research Base established through collaboration between the company and academic institutions. The combined site spans approximately 30,000 square meters. Currently, the company has a workforce of 160 employees and houses 4 engineering technology laboratories.The technical team is primarily composed of leading figures in semiconductor storage technology from Taiwan and Singapore, senior engineers, and graduates from China's top-tier Project 985 universities. To bolster its technical capabilities, the laboratory regularly invites experts and professors from its industry-university-research partner units to provide specialized guidance and support.

All related testing and verification procedures strictly adhere to the GJB150A-2009 and GBT36355-2018 standards.

China Chips Star

22000㎡ Cleanroom

Leader in Storage from Singapore and Taiwan

450 High-Precision Automatic Equipments

Full Line Automation

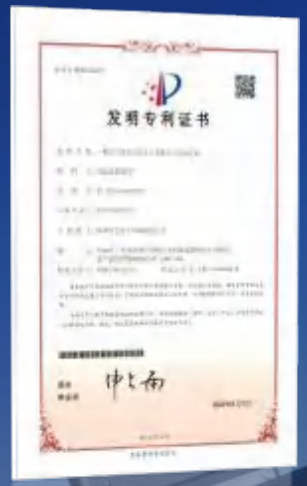
High Level Young Technical Teams

Business Model

Collaboration with leading semiconductor storage technology partners from Taiwan and Singapore, alongside top domestic teams, to establish a Semiconductor Engineering Technology R&D Laboratory. This initiative integrates cross-sector resources to target high-growth storage markets—such as automotive electronics, AI servers, network communications, industrial control, and consumer electronics.

Patent Qualification

■ ISO9001



■ 30 invention patents 10 patents in application

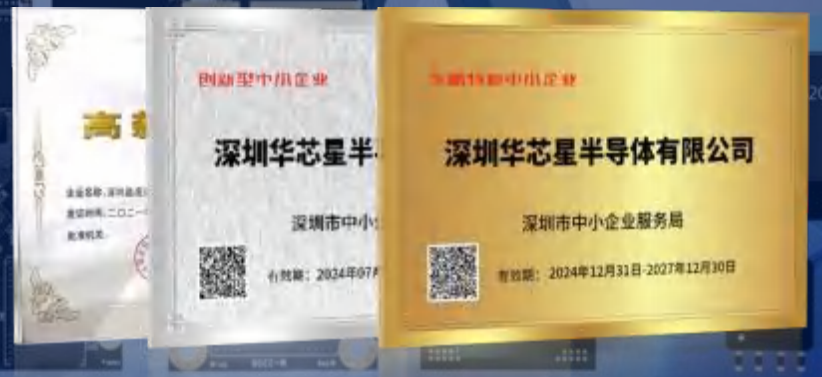
■ 25 software copyrights/ utility model patents

More than 100 intellectual property rights

■ More than 10 products have passed CE/RoHS certification

■ TUV I ATF 16949

■ Alibaba International Station Gold Medal Supplier



■Specialized, Refined, Characteristic and Innovative SMEs

■High-Tech Enterprises Innovative SMEs

■Technology SMEs

Patent Qualification

China Chips Star has been recognized as a qualified enterprise in the 2023 Integrated Circuit Design and Equipment Enterprises List (Second Batch) published by the Shenzhen Municipal Bureau of Industry and Information Technology. It is one of only three companies in Shenzhen to receive this distinction

序号	纳税人名称	纳税人识别号	税务机关	申报享受优惠类型	享受年度	当年度是否符合《国家鼓励的软件企业条件的公告》（工业和信息化部、国家发展改革委、财政部、税务总局公告2021年第9号）第一/二条规定的条件	当年度是否符合《关于软件和集成电路产业企业所得税优惠政策有关问题的通知》（财税〔2016〕49号）第四条规定的条件
1	深圳广芯封装基板有限公司	91440300MA5HKBMX04	国家税务总局深圳市龙岗区税务局	集成电路材料企业（新政策）	2023	符合	
2	深圳市新凯来技术有限公司	91440300MA5GY8J17Q	国家税务总局深圳市龙岗区税务局	集成电路装备企业（新政策）	2023	符合	
3	深圳华芯星半导体有限公司	91440300MA5HHT1Y89	国家税务总局深圳市光明区税务局	集成电路封装测试企业（新政策）	2023	符合	

02

Product Layout

Product Features

High-end Chips

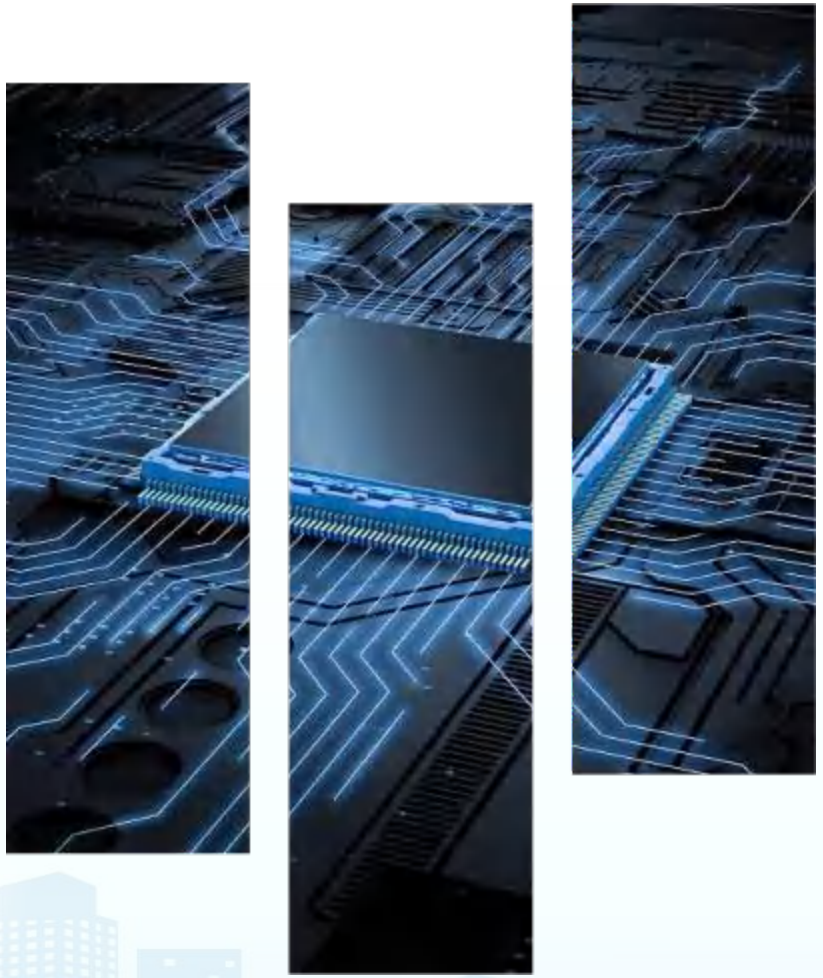
Built on KIOXIA wafers to deliver premium-grade memory chips.

Differentiation

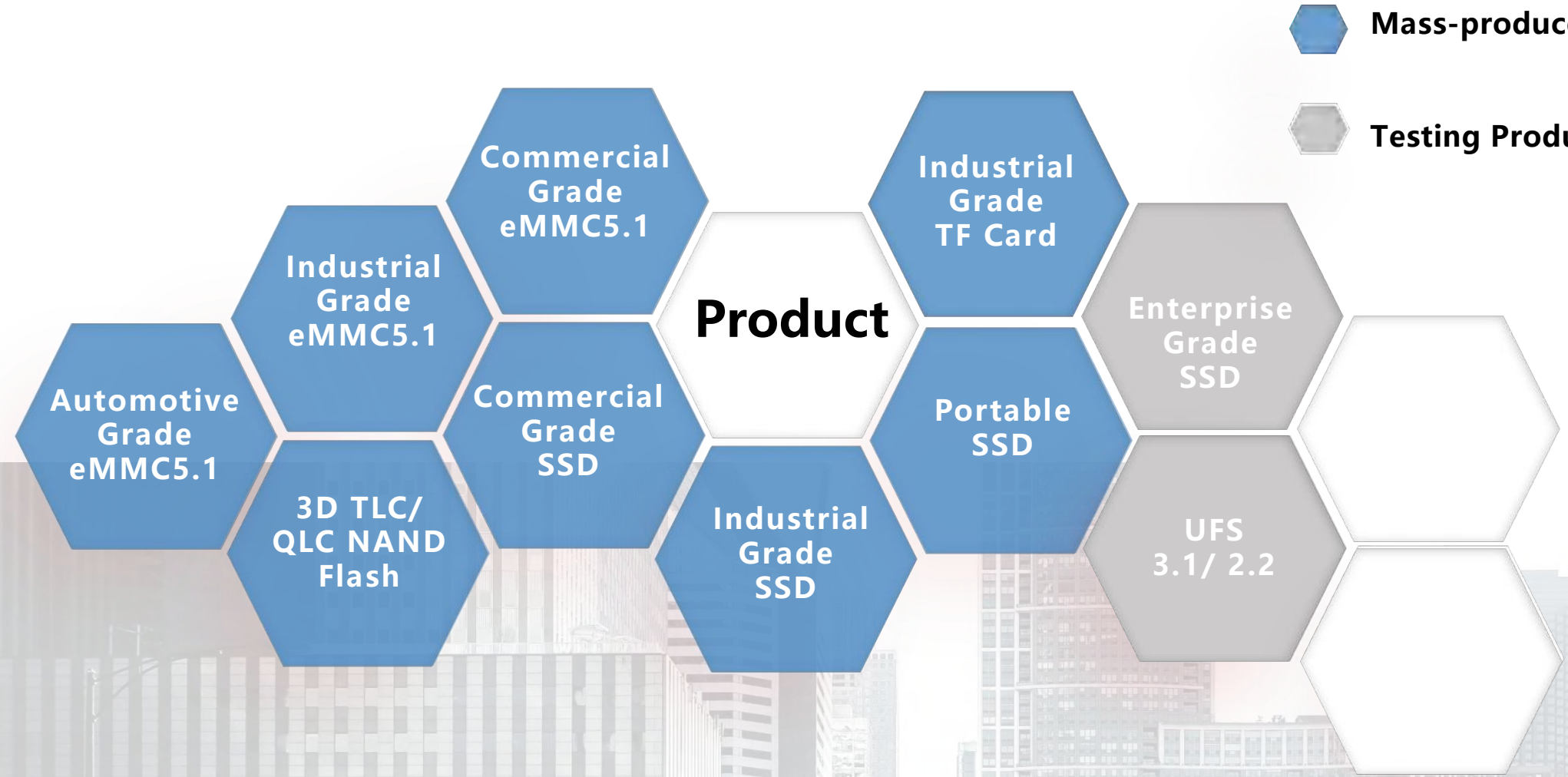
Provide customized solutions—covering commercial, industrial, automotive, and enterprise-grade products—enabling us to serve multi-tier markets.

High Value-added

Focus on brand building, quality assurance, and service excellence to avoid homogeneous competition and create high added value



Product Line



eMMC 5.1

Embedded eMMC5.1

Commercial Grade eMMC5.1

Capacity：8GB-512GB
Protocol ： HS400
Read Speed：up to 330MB/s
Write Speed：up to 240MB/s
Working Temperature ： -25℃ ~ +85℃

Industrial Grade eMMC5.1

Capacity: 8GB-512GB
Protocol: HS400
Read Speed: up to 330MB/s
Write Speed: up to 240MB/s
Working temperature: -40 ℃~+85 ℃

Wide Temperature Industrial Grade eMMC5.1

Capacity: 8GB-512GB
Protocol: HS400
Read speed: up to 330MB/s
Write speed: up to 240MB/s
Working temperature: -45 ℃~+105 ℃

Automotive Grade eMMC5.1

Capacity: 8GB-512GB
Protocol: HS400
Read speed: up to 330MB/s
Write speed: up to 240MB/s
Working temperature: -45 ℃~+105 ℃

Application Scenarios

Mobile phones, set-top boxes, tv, POS machine, tablets, robots, drones, in car entertainment

Automotive Grade eMMC& UFS

eMMC5.1

Capacity: 8GB-256GB
Protocol: HS400
Read speed: Up to 330MB/s
Write speed: Up to 240MB/s
Working temperature: -45 ℃~+105 ℃

UFS3.1/ 2.2

Capacity: 256GB-1TB
Voltage: VCC=2.4V-2.7V
VCCQ2 =1.14V-1.26V
Read speed: Up to 2100MB/s
Write speed: Up to 1700MB/s

Product Features

Compliant with ACE-Q100 standard and IATF16949 automotive grade standard

Meet the temperature requirements of -45 ℃~+105 ℃ for vehicle specifications

High reliability, high stability, long service life, stable supply guarantee

Application scenarios

- IVI Vehicle Information System
- Central control navigation
- ADAS assisted driving system
- T-BOXVehicle networking terminal
- 360°panorama
- EDRVehicle mounted event recorder
- BMSBattery Management System
- Smart Cockpit

Industrial Grade SSD

Industrial environment

Durability

Low power consumption

Anti vibration

Compatibility

High and low temperature resistance

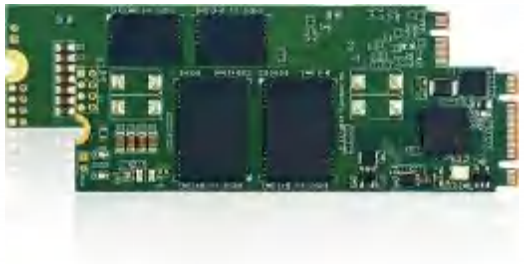
-40℃ ~85℃

Industrial grade PCIe 3.0 SSD PG Dubhe Series

Capacity: 128GB/256GB/512GB/1TB/2TB
Interface: M.2 (2230/2242/2280)
Protocol: NVMe 1.3
Size: 80mm x 22mm x 3.9mm
Working temperature: -40~85 ℃
Working voltage: 3.3V ± 5%
Read speed: 3000MB/s
Write speed: 2800MB/s
PE ≥ 3000

Application scenarios

Data center, cloud computing, virtualization, big data analytics



Industrial grade M.2 SATA SSD PG Merak Series

Capacity:
128GB/256GB/512GB/1TB/2TB
Interface: M.2 (2230/2242/2280)
Protocol: SATA III
Size: 80mm x 22mm x 3.9mm
Working temperature: -40~85 ℃;
Working voltage: 3.3V ± 5%
Read speed: 540MB/s
Write speed: 480MB/s
PE ≥ 3000

Application scenarios

Various industrial scenarios such as industrial control, medical equipment, network equipment, monitoring systems, etc.

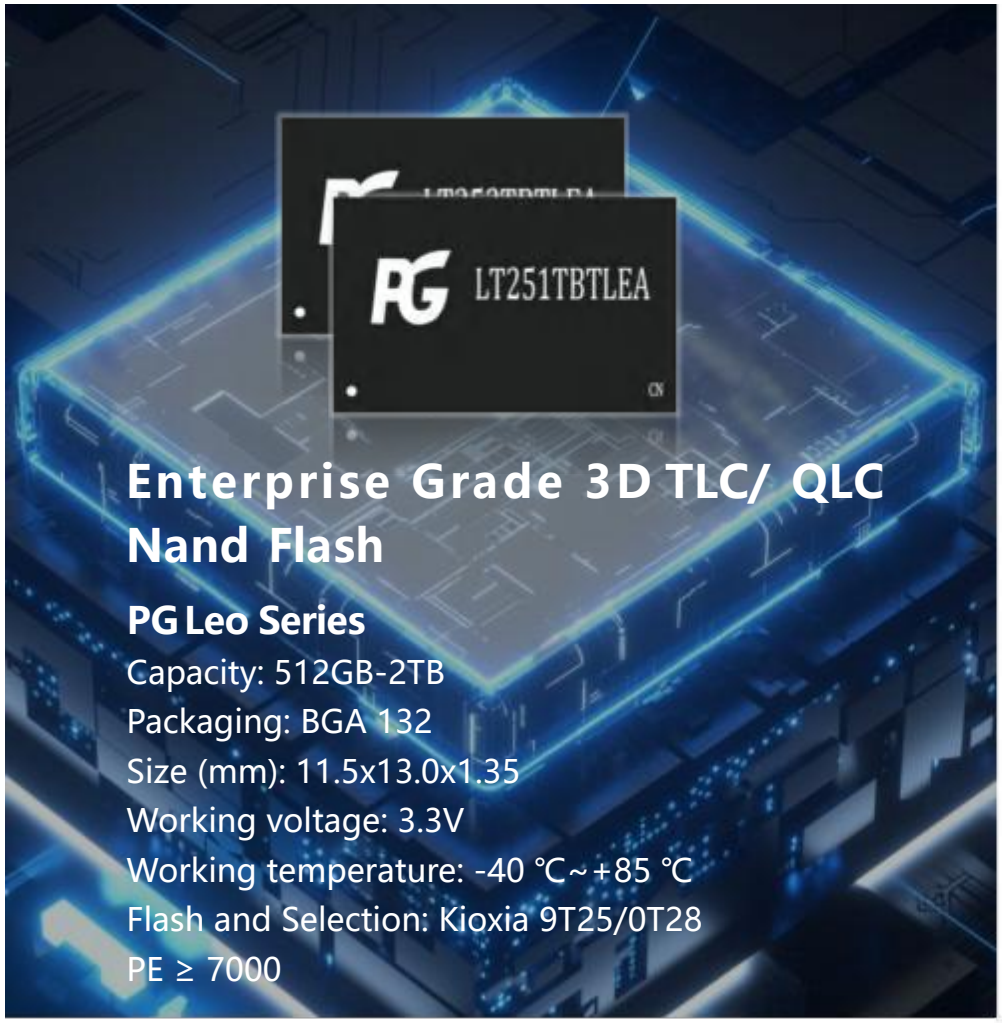
Industrial grade mSATA SSD PG Merak Series

Capacity:
64GB/128GB/256GB/512GB/1TB/2TB
Interface: mSATA
Protocol: SATA III
Size: 50.9mmx30mmx3.65mm
Working temperature: -40~85 ℃
Working voltage: 3.3V ± 5%
Read speed: 540MB/s
Write speed: 480MB/s
PE ≥ 3000

Industrial grade 2.5inch SATA SSD PG Merak Series

Capacity:
64GB/128GB/256GB/512GB/1TB/2TB
Interface: SATA 2.5inch
Protocol: SATA III
Size: 100mmx70mmx7mm
Working temperature: -40~85 ℃
Working voltage: 3.3V ± 5%
Read speed: 540MB/s
Write speed: 480MB/s
PE ≥ 3000

Enterprise Grade SSD/ 3D TLC/ QLC Nand Flash



Enterprise Grade 3D TLC/ QLC Nand Flash

PG Leo Series

Capacity: 512GB-2TB
Packaging: BGA 132
Size (mm): 11.5x13.0x1.35
Working voltage: 3.3V
Working temperature: -40 ℃~+85 ℃
Flash and Selection: Kioxia 9T25/0T28
PE ≥ 7000

Enterprise Grade PCIe 4.0 SSD

PG Mizar Series

Capacity: 2TB-8TB
Interface: U.2 NVME Gen4 x4
Protocol: NVME Express 1.4
Read speed: 6000MB/s;
Write speed: 3600MB/s

Size (mm): 100X69.85X15
Working temperature: -40~85 ℃
Storage temperature: -50~95 ℃
Support power-off protection
Hardware or software destruction (optional)

Enterprise Grade 2.5inch SATA SSD

PG Alioth Series

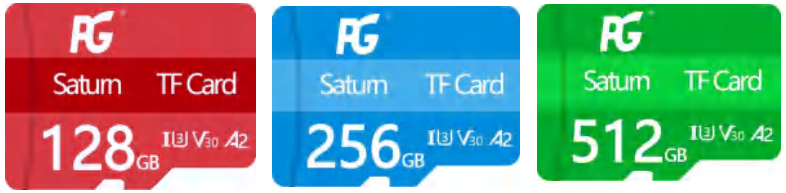
Capacity: 2TB-8TB
Interface: SATA III
Protocol: SATA Protocol V3.2
Read speed: 520MB/s;
Write speed: 500MB/s

Size (mm): 100.2 × 69.85 × 7
Working temperature: -40~85 ℃
Storage temperature: -55~95 ℃
Support power-off protection
Hardware or software destruction (optional)

Application scenarios

Server, A I PC, A I Game Console, Modern Data Center, Enterprise IT

Micro SD 6.1 TF Card



High Speed TF Card(Memory Card)

PG Saturn Series

Ultra high definition, low power consumption, high read speed

Capacity: 16GB-2TB
Size (mm): 15.0x11.0x1.0
Speed levels: C10, U3, V30, A1, A2
File System: FAT32/exFAT
A1 read/write speed: 90MB/s; 50MB/s
A2 read/write speed: 180MB/s; 135MB/s

Application scenarios

Electronic learning, portable audio, IP cameras, dash cams, wearable smart devices, android devices, game consoles, etc

Industrial Grade High Speed TF Card(Memory Card)

PG Mars Series

Stronger durability, stability, reliability, and wider adaptability to working environments

Suitable for use in industrial equipment that operates continuously for long periods in harsh environments

Capacity: 16GB-2TB
Working temperature: -40~85 ℃
Size (mm): 15.0x11.0x1.0
Speed levels: C10, U3, V30, A1, A2
File System: FAT32/exFAT
A1 read/write speed: 90MB/s; 50MB/s
A2 read/write speed: 180MB/s; 135MB/s

Application scenarios

Industry, medical, transportation,etc

03

Technological Development Process

Technological Development Process

Initial Stage(2022-2024)

Chip Roadmap

Chip Design

Chip Packaging

Chips Testing

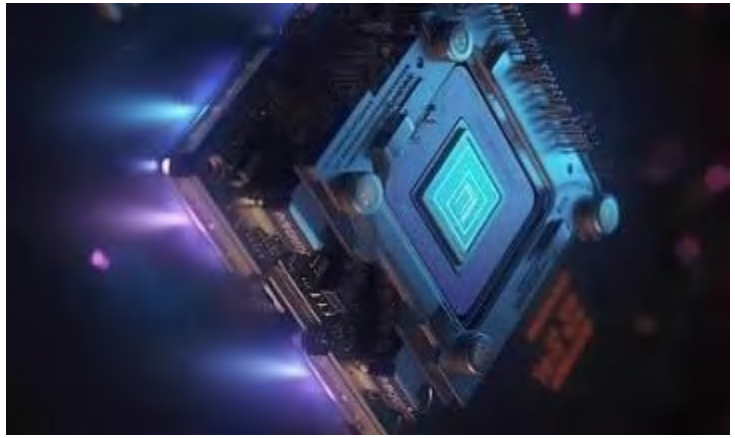
Industrial-Grade Standard Development

Industrial-Grade Testing
Software & Platform Development

Technological Development Process

Development stage (2025-2027)

Establish packaging factory in China (completed)



Storage wafer development

MLC/TLC wafer level testing (completed)

Technological Development Process

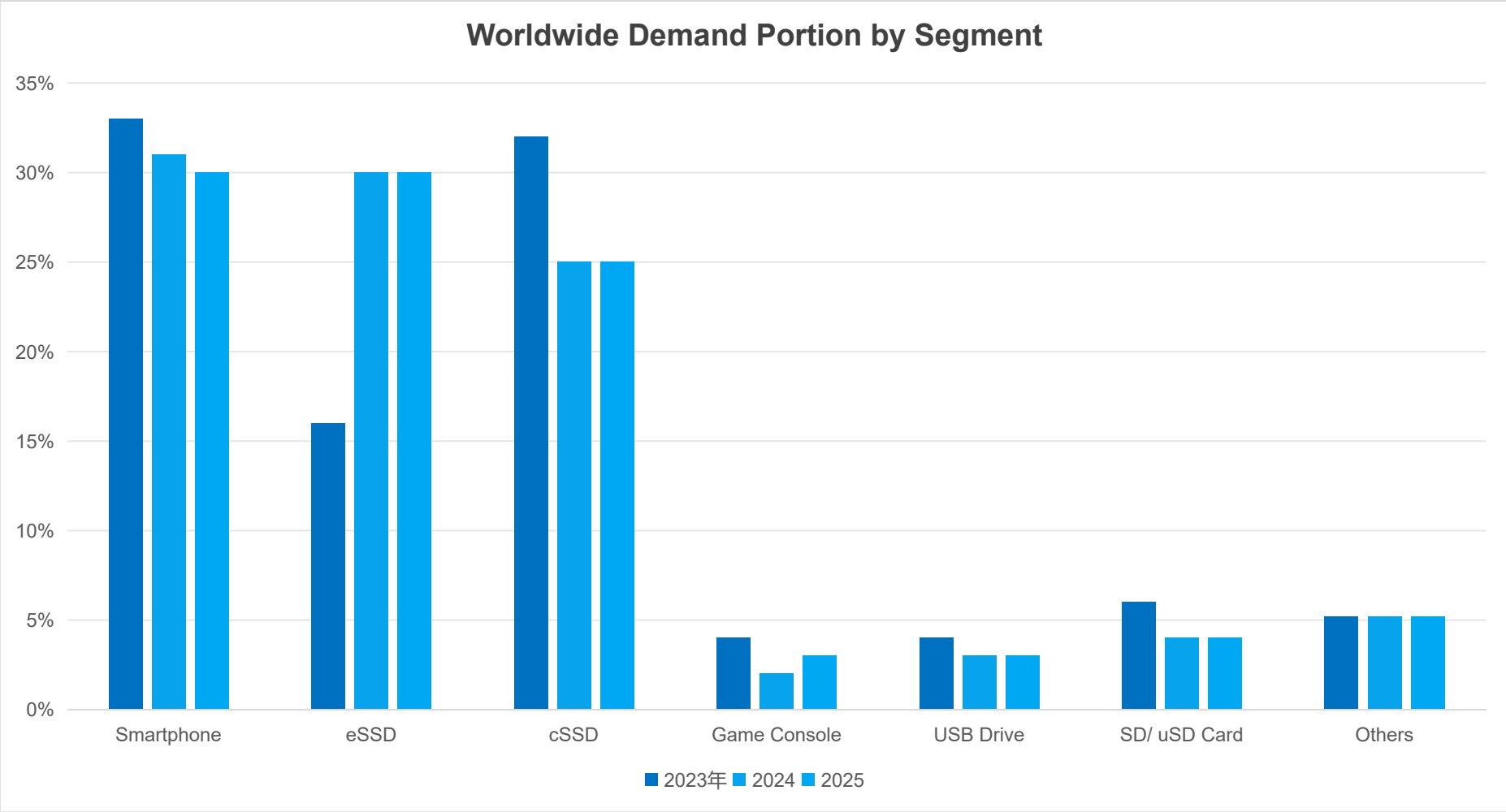
IPO Stage (2028-)

Aim to establish pioneering MLC flash development and domestic manufacturing capabilities, filling a key gap in the local supply chain.

04 Market Model

Market Analysis

Market Scale of Memory Chips



Note: The above proportions are capacity proportions

Market Analysis

Market Scale of Memory Chips

图表1：2018-2024年全球存储芯片行业市场规模(单位：亿美元)

The global memory chip market scale is expected to reach $167.1 billion in 2024 and $92.3 billion in 2023. This shows a strong growth trend. This growth is mainly driven by the demand for AI computing infrastructure, especially the increase in demand for AI servers, which has become the main driving force of the storage market.

图表1：2018-2024年中国存储芯片行业市场规模(单 位：亿元)

In 2024, the market scale of China's memory chip industry is expected to reach 300.6 billion RMB, and 259.1 billion RMB in 2023. The compound annual growth rate has reached 20.38% in the past five years. The transition from import dependence to independent production is an important development trend in China's memory chip industry, and the market share of Chinese enterprises in the global market is expected to grow from 5% in 2023 to 10% in 2025.

Data source: SMI

Market Analysis

China's enterprise-grade SSD market is projected to reach approximately RMB 62.5 billion in 2024, reflecting a year-on-year growth of 187.9%.

By 2025, the market size is expected to expand to RMB 80–85 billion, with a growth rate of roughly 28% to 36%.

Market Analysis

Globally, approximately 1.5 billion smartphones are manufactured annually, 80% of which (about 1.2 billion units) are made in China.

The NAND flash memory in each phone represents a cost of about RMB 100.

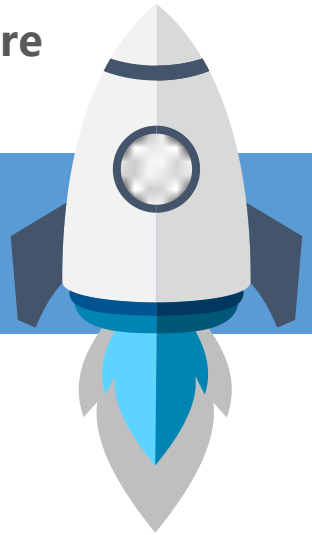
Currently, domestic manufacturers supply components worth around RMB 20 billion (primarily using Samsung wafers), while an additional RMB 100 billion portion of the market is served by imported chips.

Competitive Advantages

Localization Substitution

We are re-architecting both software and hardware to set new industry standards and build a cohesive ecosystem.

Our primary target clients are major state-owned enterprises and leading AI/IT companies, who are the key buyers of high-end storage products.



Team & Market Resources

China Chips Star has direct access to key market resources, including government agencies, state-owned enterprises, and top AI/IT firms, giving us a decisive edge in the localization substitution sector.

Our team members possess firsthand experience working within state-owned enterprises and have an in-depth understanding of domestic policies and market requirements.

Competitive Advantages

Stable support from the upstream, midstream, and downstream industrial chain

Competitive Advantages

High quality customers

Communication terminal

HONOR 荣耀

TRANSSION 传音控股

ZTE中兴

alhua TECHNOLOGY 大华股份

Mobile platform

紫光展锐 UNISOC

MEDIATEK 聯發科技

Qualcomm 高通

Multimedia and IoT platforms

Rockchip 瑞芯微电子

ALLWINNER 全志科技

Amlogic 晶晨半导体

Laptop and server platform

HUAWEI

兆芯

HYGON 中科海光

intel

AMD

Market Layout

Utilize resource advantages to explore high-end markets

Replace KIOXIA in the Finished Product Market in China

With KIOXIA gradually scaling back its presence in China, China Chips Star utilizes ongoing wafer supply partnerships, local service, and cost advantages to develop higher-performance alternatives—rebuilding part of the market previously served by KIOXIA.

OEM Creates High Output Value

TK supplies KIOXIA wafers to China Chips Star, which provides chip OEM manufacturing services to both TK and KIOXIA. This cooperation model delivers mutual benefits and generates high output value.

Leveraging KIOXIA Wafers to Build High-End Storage Chip Solutions

TK, a subsidiary of KIOXIA, is a direct investor in China Chips Star, ensuring a stable supply of high-quality wafers. China Chips Star focuses on enterprise-grade, industrial-grade, and automotive-grade products, targeting the high-end AI storage market.

Exploring High-End Chip Markets Including Samsung, Micron, and Others

Supported by KIOXIA wafers and advanced controllers, China Chips Star is expanding into broader high-end chip segments—competing in fields dominated by Samsung, Micron, PHISON, and other Taiwan brands that also source from KIOXIA.

Market Layout

- Automotive Electronics Business Department
- Consumer Electronics Business Department
- International Business Department
- Server and Network Communication Business Department
- Industrial Products Business Department

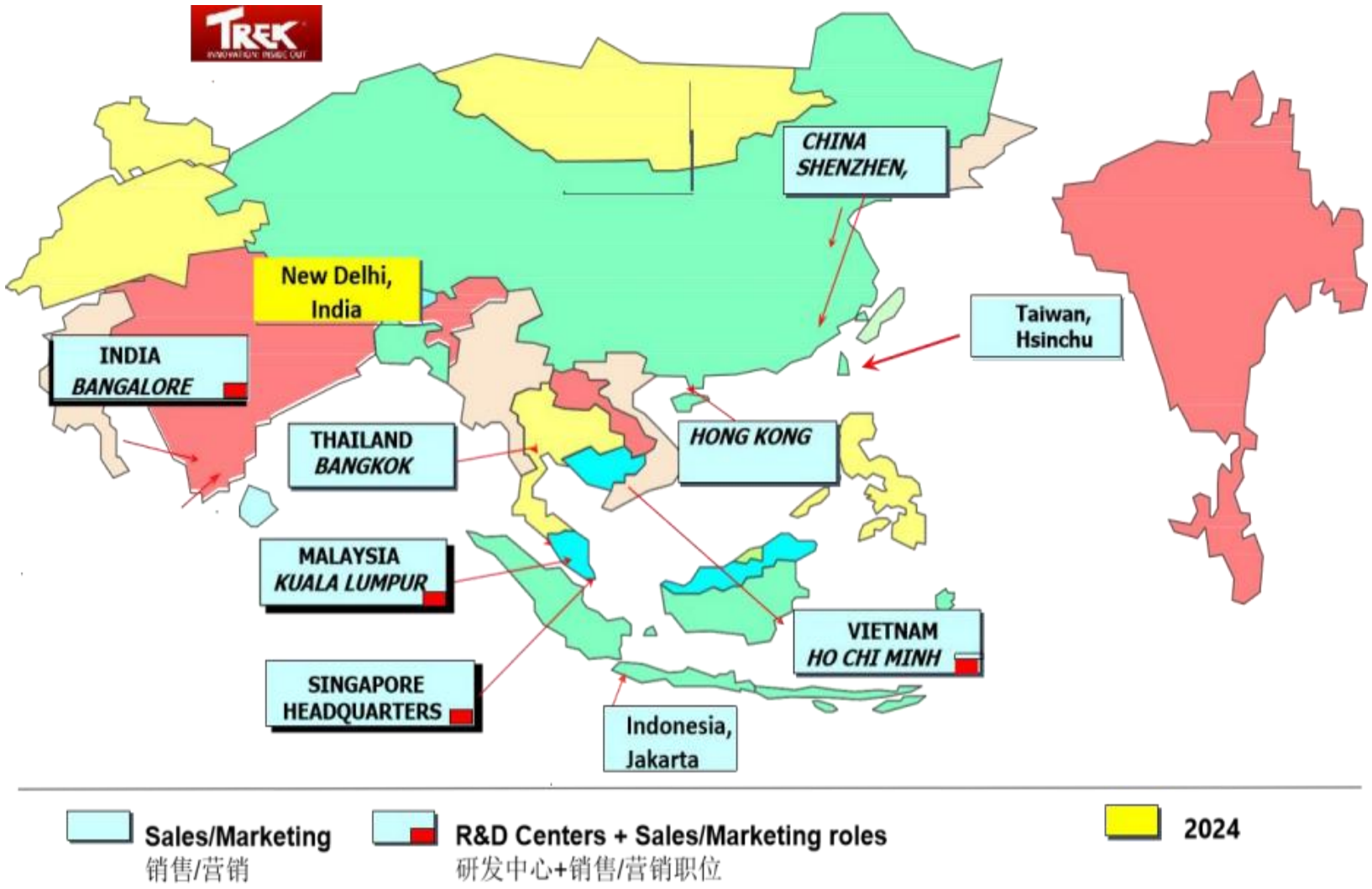
Market Layout

Telecommunications Operator Systems

Products under the PG brand have passed carrier certification conducted by the China Mobile Research Institute. Once certified by China Mobile, other operators accept this certification, exempting the products from further testing. This allows all communication equipment suppliers to procure these products directly.

Market Layout

United TREK Global Market Chain



Trek’s Established Network:

- Subsidiaries across Singapore, Malaysia, Indonesia, Thailand, Vietnam, India, China, Japan, South Korea, and New Zealand
- Decades-cultivated sales and marketing channels
- Integrated R&D + Sales roles in key regions

Synergy with China Chips Star:

- Our products leverage Trek’s international sales infrastructure
- Driving overseas revenue and brand influence
- Accelerating our path to becoming a global brand

THANKS

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http://www.ccss.ltd/