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UPDATE

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Greater China Semiconductors | Global

OCP kick off – Optical, Packaging, Memory and Power in focus

Al infrastructure innovation is shifting toward rack-level co-optimization, creating opportunities in optical interconnects, advanced packaging, memory architectures, and power delivery as agentic Al drives inference demand.

Key Takeaways

- Optical interconnect: CPO is moving toward rack-scale scale-up, while pluggables retain a scale-out advantage.
- Custom ASICs and packaging: MediaTek sees 3.5D gaining traction as 2.5D approaches physical limits
- Memory architecture: SK hynix targets inference capacity and KV-cache bottlenecks through MARS arid HBF.
- Power and cooling: Racks above 200kW accelerate 800V DC, vertical power delivery and liquid cooling.

CPO: Optical scale-up is getting closer to reality. A 64-XPU CPO-enabled compute-rack demonstration highlighted the potential for direct optical links between accelerators. As 200G/lane electrical channels approach physical limitations, optical scale-up will become more important, particularly for customized XPUs. However, pluggagle optics should retain scale-out volume leadership given advantages in serviceability and cost. Packaging yield, fiber alignment, and reliability remain key commercialization challenges.

Advanced packaging: Moving beyond 2.5D. MediaTek highlighted custom ASIC designs approaching 10x reticle size, arguing that 3.5D integration could deliver approximately 10x better die-to-die energy efficiency versus conventional 2.5D interconnects. Management expects increasing adoption over the next 3-5 years. MediaTek also emphasized custom HBM, proprietary die-to-die interconnects, and DTCO optimization. We see structural opportunities for advanced packaging and custom ASIC design services as system complexity increases (link).

Memory: Capacity matters alongside bandwidth. SK hynix introduced its MARS disaggregated memory architecture, demonstrating a 3-5x improvement in time-to-first-token through shared KV-cache access versus recomputation. Meanwhile, HBF targets approximately half of HBM bandwidth but 14x higher capacity, with samples expected in early 2028. Inference workloads will increasingly require heterogeneous memory architectures encompassing HBM, DRAM, and NAND, potentially expanding memory content beyond traditional GPU-attached HBM (link).

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Asia Pacific
Industry View **Attractive**

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Power and thermal: The next system-level constraints. Demonstrations of 6kw-class double-sided cold plates vertical power delivery, and advanced microchannel cooling highlighted intensifying thermal challenges. The transition toward 800V DC should reduce conversion losses and improve power density. Meanwhile, AMD's Helion agentic Al rack architecture reinforces incremental CPU demand alongside GPU infrastructure. Power delivery, advanced cooling, and system integration capabilities to become increasingly important differentiators.

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Overweight/Buy	1599	43%	455	48%	28%	783	44%
Equal-weight/Hold	1563	42%	394	42%	25%	763	43%
Not-Rated/Hold	2	0%	1	0%	50%	1	0%
Underweight/Sell	570	15%	96	10%	17%	227	13%
Total	3,734		946			1774	

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INDUSTRY COVERAGE: Greater China Technology Semiconductors

COMPANY (TICKER)	RATING (AS OF)	PRICE* (10/13/2026)
Charlie Chan		
Advanced Wireless Semiconductor Co (8086.TWO)	U (07/14/2025)	NT$140.00
Alchip Technologies Ltd (3661.TW)	O (05/14/2021)	NT$4,055.00

ASE Technology Holding Co. Ltd. (3711.TW)	O (09/15/2024)	NT$740.00
Cambricon Technology Corporation (688256.SS)	O (04/27/2026)	Rmb976.49
CXMT Corp (688825.SS)	O (08/26/2026)	Rmb46.99
Global Unichip Corp (3443.TW)	O (06/24/2026)	NT$8,095.00
GlobalWafers Co Ltd (6488.TWO)	E (05/19/2026)	NT$1,015.00
Gudeng Precision (3680.TWO)	O (11/25/2025)	NT$553.00
Hua Hong Semiconductor Ltd (1347.HK)	E (03/12/2026)	HK$85.10
Iluvatar CoreX Semiconductor Co., Ltd. (9903.HK)	O (04/27/2026)	HK$84.90
MediaTek (2454.TW)	O (11/28/2025)	NT$4,525.00
MetaX Integrated Circuits (688802.SS)	E (04/27/2026)	Rmb436.90
Nanya Technology Corp. (2408.TW)	O (05/28/2026)	NT$488.00
OmniVision Integrated Circuits Group Inc (603501.SS)	E (11/17/2025)	Rmb75.96
Phison Electronics Corp (8299.TWO)	E (02/25/2026)	NT$1,965.00
SG Micro Corp. (300661.SZ)	E (11/03/2025)	Rmb95.24
Silergy Corp. (6415.TW)	U (05/19/2026)	NT$428.50
SMIC (0981.HK)	O (10/21/2025)	HK$55.55
TSMC (2330.TW)	O (02/07/2022)	NT$2,490.00
UMC (2303.TW)	O (05/19/2026)	NT$141.50
Vanguard International Semiconductor (5347.TWO)	E (01/14/2026)	NT$175.00
WIN Semiconductors Corp (3105.TWO)	E (10/09/2026)	NT$556.00
Daisy Dai, CFA		
ASMPT Ltd (0522.HK)	O (07/24/2025)	HK$158.40
China Resources Microelectronics Limited (688396.SS)	U (03/02/2026)	Rmb49.82
Empyrean Technology Co Ltd (301269.SZ)	E (01/17/2025)	Rmb97.82
Hangzhou Silan Microelectronics Co. Ltd. (600460.SS)	U (08/25/2025)	Rmb27.75
Hygon Information Technology Co., Ltd. (688041.SS)	O (07/03/2026)	Rmb209.74
Innoscience (2577.HK)	E (10/13/2025)	HK$34.54
JCET Group Co Ltd (600584.SS)	O (09/16/2026)	Rmb60.16
Shanghai Fudan Microelectronics (1385.HK)	O (03/07/2025)	HK$23.20
SICC Co Ltd (688234.SS)	O (03/20/2026)	Rmb93.85
SJ Semiconductor Corp (688820.SS)	E (09/16/2026)	Rmb104.39
StarPower Semiconductor Ltd (603290.SS)	E (05/14/2026)	Rmb74.23
Unigroup Guoxin Microelectronics Co Ltd (002049.SZ)	U (01/10/2023)	Rmb55.38
Universal Scientific Ind. (Shanghai) (601231.SS)	O (11/05/2025)	Rmb22.50
Yangjie Technology (300373.SZ)	O (06/10/2022)	Rmb80.60
Daniel Yen, CFA		
AP Memory Technology Corp (6531.TW)	O (07/11/2025)	NT$926.00
ASMedia Technology Inc (5269.TW)	U (10/03/2025)	NT$1,540.00
Aspeed Technology (5274.TWO)	O (06/09/2025)	NT$17,350.00
Egis Technology Inc (6462.TWO)	E (01/28/2026)	NT$97.00
Elan Microelectronics Corp (2458.TW)	O (10/03/2025)	NT$133.00
eMemory Technology Inc (3529.TWO)	O (08/18/2026)	NT$2,810.00
Espressif Systems (688018.SS)	O (05/15/2023)	Rmb107.42
GigaDevice Semiconductor Beijing Inc (603986.SS)	O (05/15/2025)	Rmb306.22
Macronix International Co Ltd (2337.TW)	O (09/18/2025)	NT$106.50
Montage Technology Co Ltd (6809.HK)	O (03/18/2026)	HK$241.80
Montage Technology Co Ltd (688008.SS)	O (03/18/2026)	Rmb184.80
Novatek (3034.TW)	U (02/04/2026)	NT$546.00
Nuvoton Technology Corporation (4919.TW)	U (11/10/2025)	NT$142.50
Parade Technologies Ltd (4966.TWO)	O (05/27/2026)	NT$547.00
Powerchip Semiconductor Manufacturing Co (6770.TW)	O (10/27/2025)	NT$67.50
Realtek Semiconductor (2379.TW)	E (01/30/2026)	NT$758.00
Shenzhen Goodix Technology Co Ltd (603160.SS)	U (07/14/2025)	Rmb49.33
Winbond Electronics Corp (2344.TW)	O (05/28/2026)	NT$161.50
WPG Holdings (3702.TW)	O (03/16/2026)	NT$117.50

WT Microelectronics Co. Ltd. (3036.TW)	O (01/27/2026)	NT$211.50
Henry Zhao		
ACM Research Inc (ACMR.O)	O (03/07/2023)	US$68.10
Advanced Micro-Fabrication Equipment Inc (688012.SS)	O (11/06/2023)	Rmb307.69
Maxscend Microelectronics Co Ltd (300782.SZ)	U (01/11/2021)	Rmb60.11
NAURA Technology Group Co Ltd (002371.SZ)	O (11/06/2023)	Rmb591.00
Lucas Wang		
AllRing Tech Co. (6187.TWO)	O (09/23/2025)	NT$1,600.00
FOCI Fiber Optic Communications Inc (3363.TWO)	E (10/09/2026)	NT$547.00
Hon Precision (7769.TW)	O (04/17/2026)	NT$6,070.00
King Yuan Electronics Co Ltd (2449.TW)	O (03/03/2023)	NT$305.00
MPI Corporation (6223.TWO)	O (04/17/2026)	NT$5,940.00
Tiffany Yeh		
Himax Technologies Inc (HIMX.O)	E (02/04/2026)	US$12.78
Silicon Motion (SIMO.O)	O (05/06/2024)	US$246.95
WinWay Technology Co Ltd (6515.TW)	O (04/17/2026)	NT$5,700.00

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* Historical prices are not split adjusted.

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