Morgan Stanley | RESEARCH

UPDATE

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Greater China Technology Semiconductors | Asia Pacific

MCU: Supply tightness may drive prices up further

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GREATER CHINA TECHNOLOGY SEMICONDUCTORS

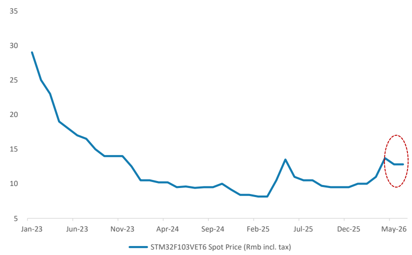
Asia Pacific

Industry View **Attractive**

Key update:

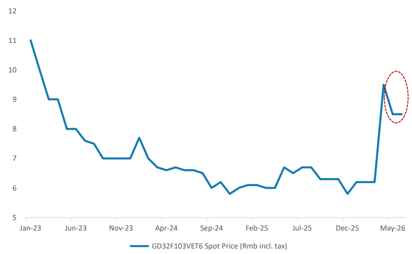
- **Flat spot pricing in June**, both STMicro's 32-bit MCU and GigaDevice's (GD) 32-bit MCU spot prices were flat MoM at Rmb12.8 and to Rmb8.5, respectively. Recently, STMicro notified customers of a new round of price adjustments effective June 28, 2026. This is the 2nd price increase this year, following an earlier adjustment announced in March and implemented in April.
- **Supply tightness may continue in 2H26**. As mature node foundry suppliers allocate more capacity to AI power-related applications and bring limited new capacity online, we expect supply to remain tight for MCU design houses.
- **End-market demand largely the same**. Despite stronger demand from distributors because of low inventory and concerns about further price hikes in 2H26, consumer and industrial end-demand in June has largely been the same vs. last month.
- **We expect spot prices to rise again in 2H26, but driven by tight supply and increased foundry costs, instead of demand**. We prefer large MCU players (e.g., GigaDevice) and WiFi MCU vendors (Espressif) for their long-term edge AI opportunities, while we remain UW on Nuvoton and await GM recovery before turning more constructive.

Exhibit 1: STMicro - 32F103VET6 spot market price trend



Source: Bom.ai, Morgan Stanley Research

Exhibit 2: GigaDevice - 32F103VET6 spot market price trend



Source: Bom.ai, Morgan Stanley Research

Valuation Methodology and Risks

Nuvoton Technology Corporation (4919.TW)

Base case, residual income model. We assume a 9.2% cost of equity (beta 1.2, risk-free rate 2.0% and risk premium 6.0%), a payout ratio of 55%, a medium-term growth rate of 7.0%, and a terminal growth rate of 3.5%.

Risks to Upside

- MCU up-cycle is more sustained than expected.
- China's MCU localization is faster than expected.
- Traction from auto and BMC business is greater.
- Margin improvement is more significant.

Risks to Downside

- MCU up-cycle ends earlier with severe pricing erosion.
- China's MCU localization is slower than expected.
- Traction from auto and BMC business is less.
- Margins contract amid more intensified competition.

GigaDevice Semiconductor Beijing Inc (603986.SS)

Our price target is our base case value, derived from our residual income model. Key assumptions: cost of equity of 8.9% (beta 1.1, risk-free rate 2% and risk premium 6%), a payout ratio of 40%, medium-term growth rate of 16.4%, and a terminal growth rate of 3.0%.

Risks to Upside

- NOR up-cycle driven by stronger demand
- Superior chip design, leading to increasing exposure to low-density NOR
- Faster-than-expected DRAM development

Risks to Downside

- NOR down-cycle driven by weaker demand
- Inferior chip design, leading to increasing exposure to mid-/high-density NOR
- Slower-than-expected DRAM development

Espressif Systems (688018.SS)

Base case, residual income model. We assume an 8.9% cost of equity (beta 1.1, risk-free rate 2.0% and risk premium 6.0%), a payout ratio of 40%, a medium-term growth rate of 18.5%, and a terminal growth rate of 4.5%.

Risks to Upside

- China's MCU localization goes faster than expected.
- Gains traction from new customers.
- Margin expansion is more significant.

Risks to Downside

- China's MCU localization pace is slower than expected.
- Traction from new customers is less than expected.
- Margins erode amid more intense competition.

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(as of May 31, 2026)

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Equal-weight/Hold	1571	43%	369	40%	23%	723	44%
Not-Rated/Hold	3	0%	0	0%	0%	1	0%
Underweight/Sell	551	15%	86	9%	16%	201	12%
Total	3,667		920			1632	

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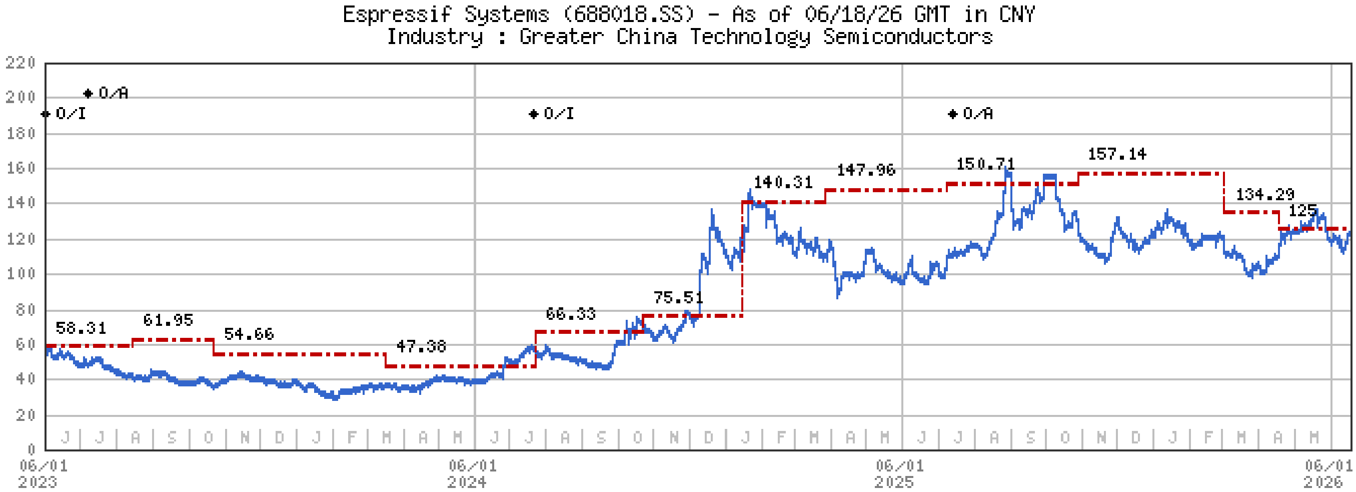
Stock Price, Price Target and Rating History (See Rating Definitions)



Stock Rating History: 7/19/21 : U/I; 10/12/21 : U/C; 10/4/22 : U/A; 2/22/23 : U/I; 5/15/23 : O/I; 7/7/23 : O/A; 7/21/24 : O/I; 7/14/25 : O/A

Price Target History: 7/19/21 : 72.89; 1/19/22 : 54.66; 3/12/22 : 47.38; 5/11/22 : 28.43; 10/18/22 : 24.05; 2/22/23 : 34.26; 5/15/23 : 58.31; 8/14/23 : 61.95; 10/23/23 : 54.66; 3/18/24 : 47.38; 7/23/24 : 66.33; 10/23/24 : 75.51; 1/15/25 : 140.31; 3/27/25 : 147.96; 7/8/25 : 150.71; 10/28/25 : 157.14; 3/2/26 : 134.29; 4/17/26 : 125

Source: Morgan Stanley Research   Date Format : MM/DD/YY   Price Target   No Price Target Assigned (NA)
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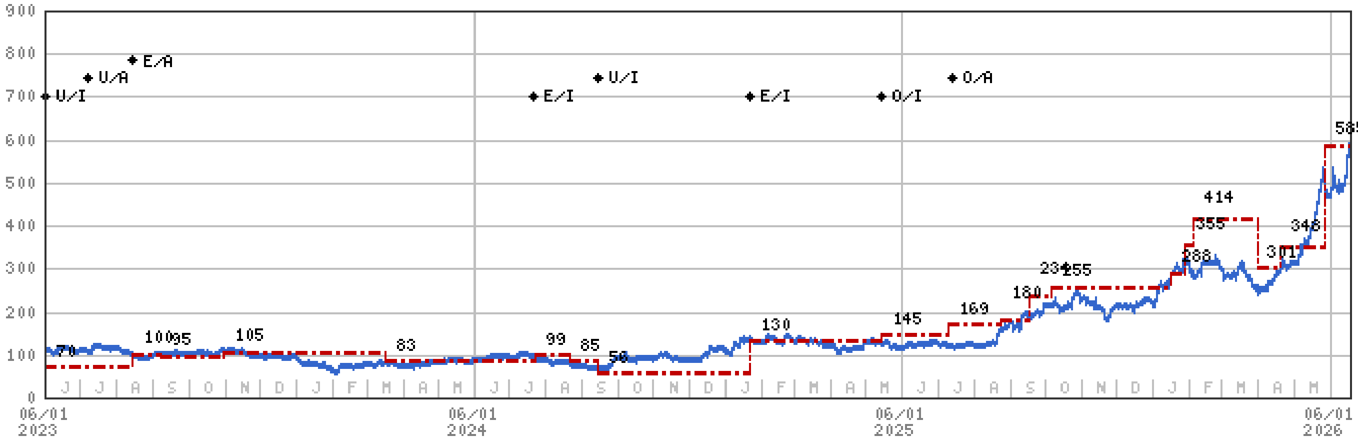
GigaDevice Semiconductor Beijing Inc (603986.SS) - As of 06/18/26 GMT in CNY
Industry : Greater China Technology Semiconductors



Stock Rating History: 6/1/21 : O/I; 10/12/21 : O/C; 10/19/21 : E/C; 12/3/21 : O/C; 7/13/22 : E/C; 10/4/22 : E/A; 10/18/22 : U/A; 2/22/23 : U/I; 7/7/23 : U/A; 8/14/23 : E/A; 7/21/24 : E/I; 9/15/24 : U/I; 1/22/25 : E/I; 5/15/25 : O/I; 7/14/25 : O/A

Price Target History: 5/27/21 : 175; 7/19/21 : 222; 8/12/21 : 233; 9/17/21 : 208; 10/19/21 : 150; 12/3/21 : 222; 4/29/22 : 192; 7/5/22 : 168; 7/13/22 : 120; 8/27/22 : 122; 9/28/22 : 105; 10/18/22 : 72; 5/2/23 : 70; 8/14/23 : 100; 9/8/23 : 95; 10/31/23 : 105; 3/18/24 : 83; 7/23/24 : 99; 8/21/24 : 85; 9/15/24 : 56; 1/22/25 : 130; 5/15/25 : 145; 7/11/25 : 169; 8/25/25 : 180; 9/18/25 : 234; 10/7/25 : 255; 1/16/26 : 288; 1/28/26 : 355; 2/5/26 : 414; 3/31/26 : 301; 4/20/26 : 348; 5/28/26 : 585

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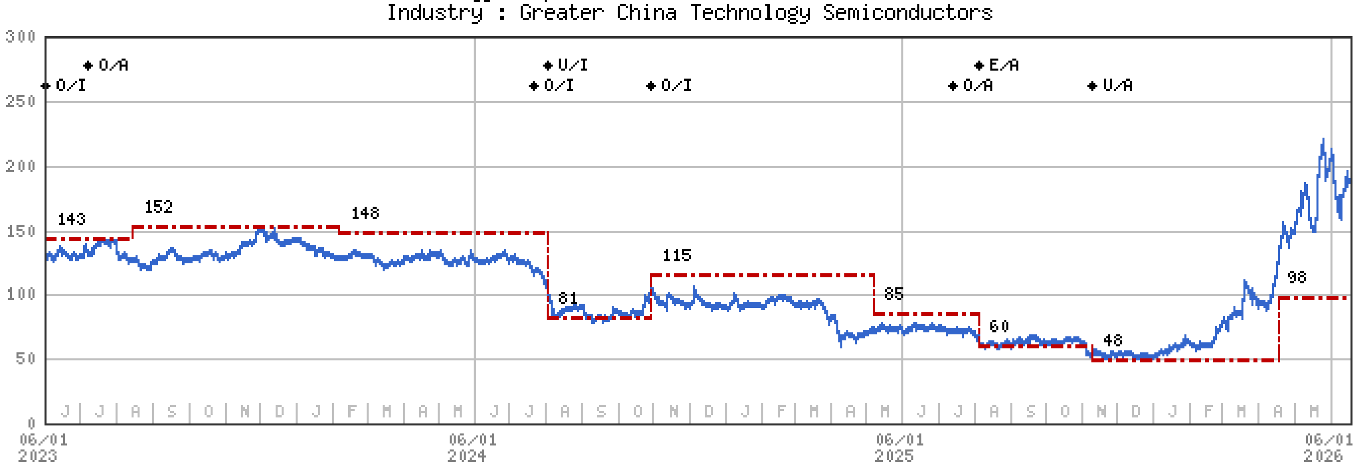

Stock Rating History: 7/19/21 : O/I; 10/12/21 : O/C; 10/4/22 : O/A; 2/22/23 : O/I; 7/7/23 : O/A; 7/21/24 : O/I; 8/2/24 : U/I; 10/29/24 : O/I; 7/14/25 : O/A; 8/6/25 : E/A; 11/10/25 : U/A

Price Target History: 7/19/21 : 155; 8/5/21 : 200; 1/17/22 : 212; 5/6/22 : 242; 7/12/22 : 168; 5/15/23 : 143; 8/14/23 : 152; 2/7/24 : 148; 8/2/24 : 81; 10/29/24 : 115; 5/7/25 : 85; 8/6/25 : 60; 11/10/25 : 48; 4/17/26 : 98

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INDUSTRY COVERAGE: Greater China Technology Semiconductors

COMPANY (TICKER)	RATING (AS OF)	PRICE* (06/18/2026)
Charlie Chan		

ACM Research Inc (ACMR.O)	O (03/07/2023)	US$96.19
Advanced Micro-Fabrication Equipment Inc (688012.SS)	O (11/06/2023)	Rmb351.00
Advanced Wireless Semiconductor Co (8086.TWO)	U (07/14/2025)	NT$162.50
Alchip Technologies Ltd (3661.TW)	O (05/14/2021)	NT$4,380.00
ASE Technology Holding Co. Ltd. (3711.TW)	O (09/15/2024)	NT$613.00
Cambricon Technology Corporation (688256.SS)	O (04/27/2026)	Rmb1,320.00
Global Unichip Corp (3443.TW)	E (05/28/2026)	NT$4,860.00
GlobalWafers Co Ltd (6488.TWO)	E (05/19/2026)	NT$1,100.00
Gudeng Precision (3680.TWO)	O (11/25/2025)	NT$517.00
Hua Hong Semiconductor Ltd (1347.HK)	E (03/12/2026)	HK$159.20
Iluvatar CoreX Semiconductor Co., Ltd. (9903.HK)	O (04/27/2026)	HK$520.00
King Yuan Electronics Co Ltd (2449.TW)	O (03/03/2023)	NT$308.50
Maxscend Microelectronics Co Ltd (300782.SZ)	U (01/11/2021)	Rmb99.80
MediaTek (2454.TW)	O (11/28/2025)	NT$4,390.00
MetaX Integrated Circuits (688802.SS)	E (04/27/2026)	Rmb732.50
Nanya Technology Corp. (2408.TW)	O (05/28/2026)	NT$459.50
NAURA Technology Group Co Ltd (002371.SZ)	O (11/06/2023)	Rmb704.22
OmniVision Integrated Circuits Group Inc (603501.SS)	E (11/17/2025)	Rmb90.12
Phison Electronics Corp (8299.TWO)	E (02/25/2026)	NT$2,330.00
SG Micro Corp. (300661.SZ)	E (11/03/2025)	Rmb131.55
Silergy Corp. (6415.TW)	U (05/19/2026)	NT$629.00
SMIC (0981.HK)	O (10/21/2025)	HK$75.75
TSMC (2330.TW)	O (02/07/2022)	NT$2,410.00
UMC (2303.TW)	O (05/19/2026)	NT$145.50
Vanguard International Semiconductor (5347.TWO)	E (01/14/2026)	NT$166.50
WIN Semiconductors Corp (3105.TWO)	U (07/14/2025)	NT$519.00
Daisy Dai, CFA		
ASMPT Ltd (0522.HK)	O (07/24/2025)	HK$210.00
China Resources Microelectronics Limited (688396.SS)	U (03/02/2026)	Rmb73.78
Elan Microelectronics Corp (2458.TW)	O (10/03/2025)	NT$172.00
Empyrean Technology Co Ltd (301269.SZ)	E (01/17/2025)	Rmb105.01
Hangzhou Silan Microelectronics Co. Ltd. (600460.SS)	U (08/25/2025)	Rmb40.83
Innoscience (2577.HK)	E (10/13/2025)	HK$63.05
JCET Group Co Ltd (600584.SS)	E (01/16/2026)	Rmb81.76
Shanghai Fudan Microelectronics (1385.HK)	O (03/07/2025)	HK$29.48
SICC Co Ltd (688234.SS)	O (03/20/2026)	Rmb149.66
StarPower Semiconductor Ltd (603290.SS)	E (05/14/2026)	Rmb130.98
Unigroup Guoxin Microelectronics Co Ltd (002049.SZ)	U (01/10/2023)	Rmb80.00
Universal Scientific Ind. (Shanghai) (601231.SS)	O (11/05/2025)	Rmb37.08
Yangjie Technology (300373.SZ)	O (06/10/2022)	Rmb114.10
Daniel Yen, CFA		
AP Memory Technology Corp (6531.TW)	O (07/11/2025)	NT$1,025.00
ASMedia Technology Inc (5269.TW)	U (10/03/2025)	NT$1,455.00
Aspeed Technology (5274.TWO)	O (06/09/2025)	NT$18,485.00
Egis Technology Inc (6462.TWO)	E (01/28/2026)	NT$112.50
Espressif Systems (688018.SS)	O (05/15/2023)	Rmb122.40
GigaDevice Semiconductor Beijing Inc (603986.SS)	O (05/15/2025)	Rmb586.04
Macronix International Co Ltd (2337.TW)	O (09/18/2025)	NT$169.00
Montage Technology Co Ltd (6809.HK)	O (03/18/2026)	HK$420.60
Montage Technology Co Ltd (688008.SS)	O (03/18/2026)	Rmb262.50
Novatek (3034.TW)	U (02/04/2026)	NT$516.00
Nuvoton Technology Corporation (4919.TW)	U (11/10/2025)	NT$196.50
Parade Technologies Ltd (4966.TWO)	O (05/27/2026)	NT$675.00
Powerchip Semiconductor Manufacturing Co (6770.TW)	O (10/27/2025)	NT$74.20
Realtek Semiconductor (2379.TW)	E (01/30/2026)	NT$819.00

Shenzhen Goodix Technology Co Ltd (603160.SS)	U (07/14/2025)	Rmb59.74
Winbond Electronics Corp (2344.TW)	O (05/28/2026)	NT$218.50
WPG Holdings (3702.TW)	O (03/16/2026)	NT$112.00
WT Microelectronics Co. Ltd. (3036.TW)	O (01/27/2026)	NT$222.50
Duan Liu		
Dosilicon Co Ltd (688110.SS)	U (09/06/2024)	Rmb152.91
Shenzhen Longsys Electronics Co Ltd (301308.SZ)	E (02/25/2026)	Rmb571.68
Tiffany Yeh		
AllRing Tech Co. (6187.TWO)	O (09/23/2025)	NT$1,155.00
FOCI Fiber Optic Communications Inc (3363.TWO)	O (01/15/2025)	NT$685.00
Himax Technologies Inc (HIMX.O)	E (02/04/2026)	US$16.95
Hon Precision (7769.TW)	O (04/17/2026)	NT$6,975.00
MPI Corporation (6223.TWO)	O (04/17/2026)	NT$6,420.00
Silicon Motion (SIMO.O)	O (05/06/2024)	US$307.12
WinWay Technology Co Ltd (6515.TW)	O (04/17/2026)	NT$9,450.00

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* Historical prices are not split adjusted.