China Semiconductors

Power Semi: Tight Supply, Better Pricing, Stronger Margins

30 June 2026

Rating Change

Price hikes as the inflection point for power semi upcyc

We see China's power semiconductor cycle entering a more constructive phase give brighter growth outlook led by AI related application, including AIDC / AI servers; and gross margin expansion opportunities driven by price hike due to supply tightness (e for low-/mid-voltage power semis like MOSFET) in the supply chain. We expect furth potential price hikes of power semi devices in 2H26E to act as an additional re-ratin catalyst for the sector, given limited incremental capacity for low-/mid-voltage pow semi including MOSFETs and global suppliers appear to be reallocating capacity tow higher-value AI/AIDC applications, tightening supply for traditional industrial custom Among power semis vendors in China, we expect companies with higher revenue exposure to low-/mid-voltage power semi like MOSFETs/small signals could benefit more from supply shortage (Exhibit 10).

Compute & data storage to lead the demand growth

China's power discrete market size was US$13.2bn in 2025 and we expect it to gro a CAGR of 10% to US$17.7bn in 2028E. By application segment, compute & storage could be the fastest-growing segment (+30% CAGR) in 2025-28E, followed by industri (12%) and automotive (8%). For AI demand, the key mechanism is not only more server but also significantly higher power density per GPU and per rack. This shifts demand toward higher-value low-voltage MOSFETs/DrMOS for board-level VRMs (voltage regulator module), higher-voltage MOSFETs/SiC/GaN for PSUs (power supply units) an rack power, and more protection/conversion devices for future 800V HVDC architectur

Emerging supply shortage, disciplined capacity growth

Surging downstream demand (AIDC) and rising upstream costs have jointly driven a new round of price hike for the industry YTD (Feb-Mar and May-Jun), prompting multiple vendors including NCE Power, Silan, CR Micro et al. to raise product prices by 10-20% (Exhibit 6). We expect more price hikes in 2H26E given prolonged lead time and highly utilized capacity by domestic power semi IDM players. And, we see more disciplined new capacity expansion for domestic power semis IDMs in the next few years. According to our industry checks, we see 6% capacity expansion CAGR in 2025-2028E for Silan, CR Micro, CRRC Times, Yangjie, Jiejie Micro and StarPower on an aggregate basis.

Raise est./PO, Buy NCE Power, Upgrade Silan to Neutral

We reiterate our Buy rating on **NCE Power.** as we view it as a direct beneficiary of the tightening low-/mid-voltage MOSFET cycle. Improving demand, broader ASP increases and incremental third-party wafer capacity is likely to support stronger revenue and margin momentum into 2H26E. Raise price objective to RMB119 from RMB47.We upgrade **Silan** to Neutral from Underperform and raise our PO to RMB57 from RMB20.3, given GPM expansion following recent price hikes. However, with the stock trading at 60 x 12-month forward P/E, we believe its valuation has largely priced in the positives.

Exhibit 2: China power discrete market is expected to grow at a CAGR of 10% in 2025-28E

China power discrete market size (US$ bn)

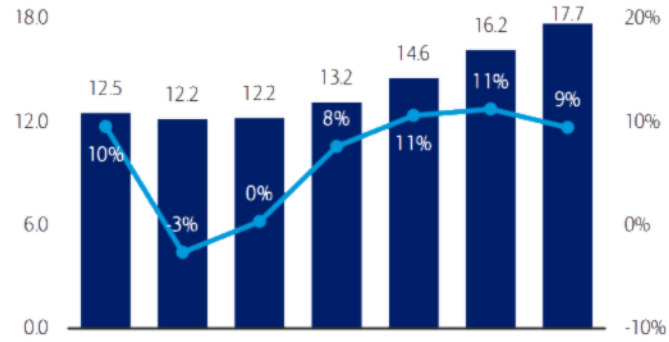


Exhibit 3: Compute & data storage to lead the growth, followed by industrial and auto

China power discrete market size forecast by application (US$bn)

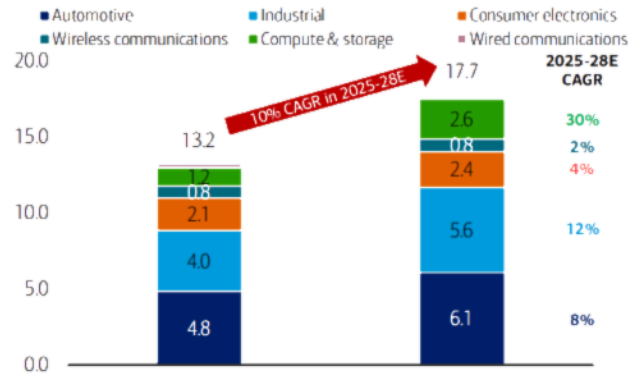
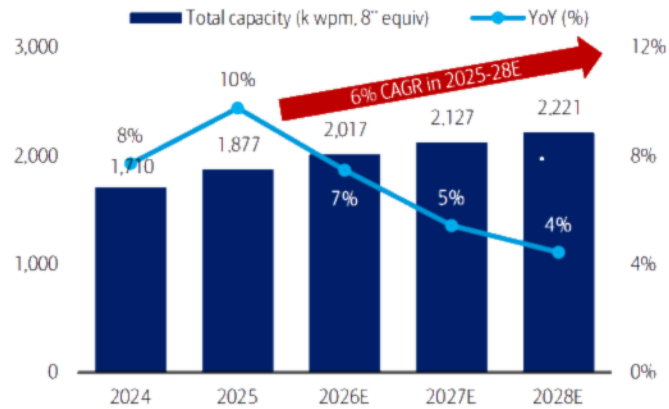


Exhibit 4: Power semis capacity of leading domestic IDMs is expected to see 4-7% expansion p.a., or 6% CAGR in 2025-28E

Total power semis capacity of leading domestic IDMs (k wpm, 8" equiv)

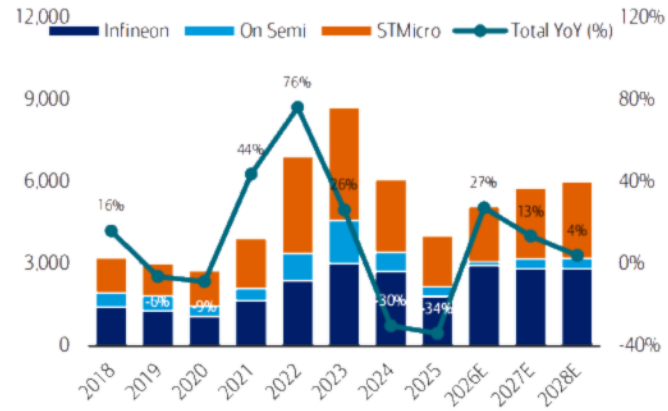


Source: Companies, Times Electric and StarPower

Note: include Yangjie, Silan, CR Micro, Jiejie Micro, CRRC

Exhibit 5: Total capex of Infineon, On semi and STMicro is expected to increase in 2026-28E, while not focusing on MOSFET

Capex trends of key global power semis players (US$mn)



Source: Companies, allocated to MOSFET

estimates; Note: total capex, which is not solely

Exhibit 6: A new round of price hike in power semis industry was triggered by rising upstream raw material costs, coupled with strong demand from AI computing, EVs and energy storage

Recent price increase by China and global power semis companies

Company	Product Scope	Price Increase	Effective time
CR Micro	All products	10%+	From 1 Feb 2026
Silan	Small-signal diode/transistor chips, trench TMBS chips, MOS-type chips	10%	From 1 Mar 2026
NCE Power	MOSFET products	10%+	From 1 Mar 2026
Jiejie Micro	MOSFET, IGBT products, thyristors	MOSFET: 10–20% IGBT: 10–20% Thyristor: 10-20%	MOS: From 1 Feb 2026 IGBT: From 1 May 2026 Thyristor: From 3 Feb 2026
Yangjie Technology	All products	10-15%	From 1 Jul 2026
MacMic Science & Technology	IGBT discrete devices and modules, MOSFET devices	Not disclosed	From 1 Mar 2026
Infineon	Certain products (exact product types were not disclosed)	Not disclosed	From 1 Jul 2026
On Semi	A limited range of products (exact product types were not disclosed)	Not disclosed	From 1 Apr 2026
Texas Instruments	PMICs and MOSFETs, etc.	Not disclosed	From 1 Jul 2026

Rating, PO and estimates change

We see China's power semiconductor cycle entering an upcycle, supported by AI/AIDC-led demand growth and margin expansion driven by price hikes amid supply tightness in low-/mid-voltage power semiconductors such as MOSFETs. Accordingly, we raise our FY 26-28E earnings estimates for NCE Power by 6-28% and for Silan by 52-63%. We raise our PO to RMB119 (from RMB47) for **NCE Power**, based on 55x 2H27-1H28E P/E (prior 32x 2H26-1H27E P/E), 10% higher than the average of China power semis peers due to faster revenue growth. We upgrade **Silan** to Neutral from Underperform, given GPM expansion following recent price hikes, while its current valuation has largely priced in the positives. We raise our PO to RMB57 (from RMB20.3) based on 50x 2H27-1H28E P/E (prior 36x 2Q26-1Q27E P/E), in line with the average of China power semis peers.

Despite IDMs generally exhibit higher earnings elasticity to product price hikes, we prefer **NCE Power** over **Silan** given 1) higher revenue exposure to low-/mid-voltage power semis like MOSFETs, which could benefit more from supply shortage among power semi vendors in China, 2) superior revenue growth outlook (Exhibit 9) and ROE relative to peers. Besides, we expect NCE Power to add meaningful capacity from 3 Q26E through collaboration with key foundry partners, which bode well for revenue growth acceleration.

Exhibit 7: We raise PO for NCE Power and Silan, and upgrade Silan to Neutral

China power semis: PO and rating change details

	Old			New		
Company name	PO	Rating	Valuation method	PO	Rating	Valuation method
NCE Power	RMB47	Buy	32x 2H26-1H27E P/E	RMB119	Buy	55x 2H27-1H28E P/E
Silan	RMB20.3	Underperform	36x 2Q26-1Q27E P/E	RMB57.0	Neutral	50x 2H27-1H28E P/E

Source: Global Research

Exhibit 8: We revise estimates for NCE Power and Silan

China power semis: estimates changes

		FY26E			FY27E			FY28E		
Company	RMB mn	New	Old	Diff (%)	New	Old	Diff (%)	New	Old	Diff (%)
NCE Power	Revenue	2,370	2,310	2.6	3,173	2,803	13.2	3,806	3,196	19.1
	Net profit	552	520	6.1	815	679	20.1	983	769	27.8
Silan	Revenue	16,123	15,549	3.7	18,897	17,769	6.3	21,849	19,634	11.3
	Net profit	1,225	808	51.5	1,720	1,065	61.5	2,076	1,272	63.2

Source: Global Research estimates

Exhibit 9: NCE Power is expected to post the fastest revenue growth among peers in FY25-28E

Revenue CAGR (FY25-28E) for leading domestic power semis companies

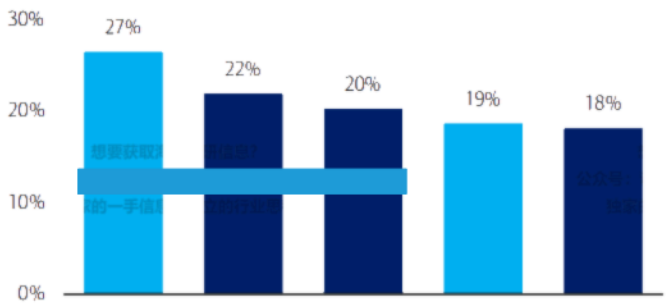


Exhibit 10: Yangjie Technology and NCE Power have higher revenue exposure to low-/mid-voltage power semis products

Revenue exposure to low-/mid-voltage power semis products (FY25)

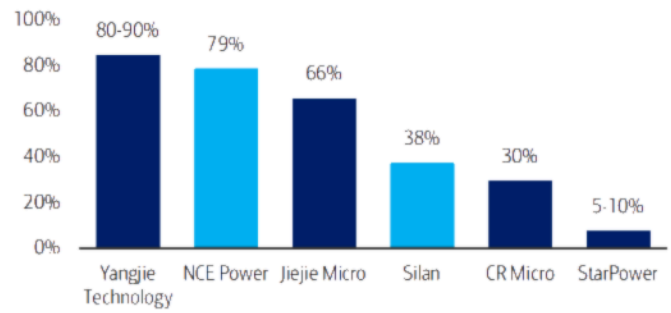
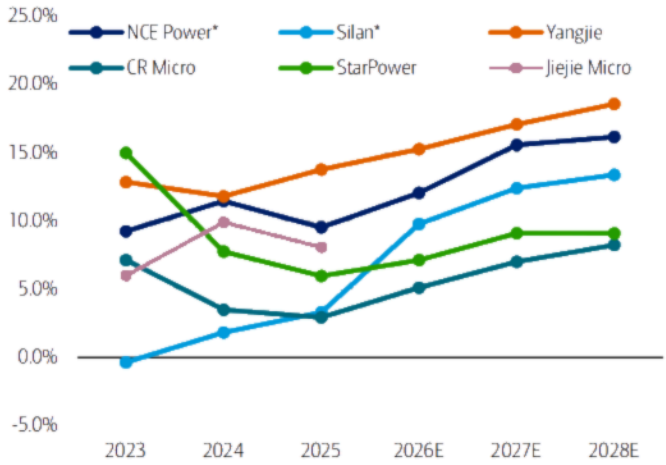


Exhibit 11: Leading domestic power semis companies are expected to post improving ROE in FY26-28E

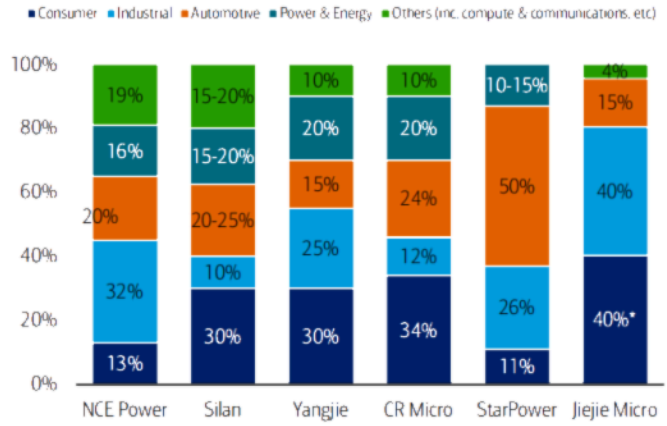
ROE trend of leading domestic power semi companies



Source: Bloomberg, Global Research estimates (*)

Exhibit 12: NCE Power has relatively lower exposure to automotive industry

End market exposure for major Chinese power semis companies (FY25)



Source: Companies, Note- (*) Jiejie Micro's revenue exposure to power & energy segment is included in industrial segment

Exhibit 13: Leading China power semis companies are trading at 63x FY27E P/E on average and global peers are trading at 27x on average

Valuation comparisons - power semis

		Price	Mcap	P/S			P/E			P/B			ROE (%)		Revenue CAGR (%)	PEG	GPM (%)	OPM (%)	NPM (%)
	Ticker	(Local)	(US$bn)	FY26E	FY27E	FY28E	FY26E	FY27E	FY28E	FY26E	FY27E	FY28E	FY26E	FY27E	(FY25-28E)	FY27E	FY26E	FY26E	FY26E
China power semis																			
Silan*	600460 CH	52.6	12.9	5.4	4.6	4.0	67.8	48.3	40.0	6.3	5.7	5.0	9.8	12.4	18.7	0.7	22.1	9.3	9.4
NCE Power*	605111 CH	90.1	5.5	15.8	11.8	9.8	60.8	41.2	34.2	6.9	6.0	5.1	12.0	15.6	26.6	1.2	33.5	23.1	29.4
InnoScience*	2577 HK	63.9	7.5	23.1	11.7	6.8	NM	135.2	31.0	7.5	6.4	4.4	-7.5	16.0	83.1	NM	24.7	-19.1	-43.1
CR Micro	688396 CH	92.5	18.1	9.5	8.1	6.7	93.1	67.8	53.2	5.0	4.7	4.3	5.1	7.0	18.2	1.3	28.1	11.0	11.8
Yangjie	300373 CH	150.0	12.0	9.2	7.6	6.3	49.7	39.2	31.2	7.5	6.6	5.7	15.2	17.1	22.0	1.4	34.7	21.2	23.0
StarPower	603290 CH	139.0	4.9	6.9	5.6	4.8	60.8	43.5	35.1	4.5	3.8	3.3	7.1	9.1	20.3	1.3	26.1	10.9	13.6
Average			**10.1**	**11.6**	**8.2**	**6.4**	**66.4**	**62.5**	**37.5**	**6.3**	**5.5**	**4.6**	**7.0**	**12.8**	**21.2**	**1.4**	**30.4**	**16.1**	**18.3**
Median			**9.7**	**9.4**	**7.9**	**6.5**	**60.8**	**45.9**	**34.6**	**6.6**	**5.8**	**4.7**	**8.4**	**14.0**	**21.2**	**1.4**	**30.4**	**16.1**	**18.3**
Global power semis																			
Infineon*	IFX GY	78.3	116.5	6.4	5.2	4.4	44.0	27.4	19.6	5.6	4.8	3.9	13.3	18.9	16.7	0.4	41.0	20.0	11.1
ON Semi*	ON US	90.7	35.5	5.4	4.8	4.4	29.1	21.3	17.8	4.9	4.2	3.6	16.4	20.8	8.8	0.1	40.0	21.8	15.1
STMicroelectronics*	STM US	71.4	65.1	5.5	4.5	4.1	44.7	19.8	15.2	3.7	3.2	2.7	7.8	15.9	18.3	0.1	37.3	11.0	11.7
Vishay*	VSH US	56.4	7.7	2.1	1.8	1.6	65.5	30.6	22.3	3.3	3.1	2.8	5.6	11.2	15.3	NM	24.1	6.7	3.8
Renesas*	6723 JP	4,810.0	55.6	5.5	4.9	4.3	19.7	17.5	15.8	3.1	2.8	2.5	17.3	17.2	15.6	NM	58.0	32.1	23.6
Navitas	NVTS US	17.3	4.2	98.2	57.0	33.4	N.A.	N.A.	N.A.	10.5	12.0	12.6	-9.5	-19.3	39.5	NM	39.3	-106.0	-84.8
Power Integrations	POWI US	79.4	4.4	9.3	8.1	6.7	59.4	42.7	29.6	6.3	6.1	5.7	11.0	15.2	14.1	0.5	54.3	15.0	16.7
Average			**41.3**	**18.9**	**12.3**	**8.4**	**43.7**	**26.5**	**20.0**	**5.4**	**5.2**	**4.8**	**8.8**	**11.4**	**18.3**	**0.3**	**42.0**	**0.1**	**-0.4**
Median			**35.5**	**5.5**	**4.9**	**4.4**	**44.3**	**24.3**	**18.7**	**4.9**	**4.2**	**3.6**	**11.0**	**15.9**	**15.6**	**0.3**	**40.0**	**15.0**	**11.7**

NCE Power (605111 CH): Demand inflection + pricing recovery + capacity ramp to drive 2H26 earnings leverage

We reiterate our Buy rating on NCE Power as we view the company as a direct beneficiary of the tightening low-/mid-voltage MOSFET cycle in China, with improving demand, broader ASP increases and incremental wafer capacity from third-parties likely to support stronger revenue and margin momentum into 2H26E. NCE Power is a domestic power semiconductor fabless supplier focused on MOSFETs (79% of revenue in 2025), IGBTs (14%) and related power devices, with products deployed across automotive, intelligent robotics, AI servers/data centers, drones, industrial automation, PV/storage, consumer electronics, 5G communications and smart home applications. We raise our FY26-28E earnings estimates for NCE Power by 6-28%, reflecting an improving downstream demand outlook (especially in AI compute) and margin expansion from product price hikes. Rolling forward our valuation, we raise our PO to RMB119 (from RMB47), based on 55x 2H27-1H28E P/E (vs. 32x 2H26-1H27E P/E). The target multiple is 10% higher than the average of China power semis peers given its faster revenue growth.

Demand: broad-based recovery led by low-/mid-voltage MOSFET. According to our industry checks, demand is improving across multiple end markets. Drone and robotics demand are particularly strong, with customers such as DJI, Hobbywing, and Unitree, while automotive growth is driven by domestic substitution. In AI servers, NCE has exposure to 48V-to-12V secondary power architectures through a U.S. partner, with additional opportunities in HVDC and future SST architectures.

Pricing: ASP hikes to support margin recovery from 2Q-3Q26. NCE Power previously announced a price increase for its MOSFET products by 10%+, effective from 1 Feb 2026. We therefore expect 2Q26E GPM to improve slightly, with more visible improvement in 3Q–4Q26E as repriced orders are delivered. We expect the strongest gross margin leverage from Trench/SGT MOSFETs, while IGBT pricing recovery should be more moderate given less tight supply.

Capacity: incremental supply to support stronger revenue growth in 2H26E. Given the improving demand trend, we believe NCE Power's order visibility has extended to 9 months versus 2–3 months previously, and average lead time could be around 4–5 months in 2Q26. Its external capacity was almost fully utilized in 1Q26 and 2Q26E with newly added capacity expected from 3Q26E through collaboration with key foundry partners. We think the incremental foundry allocation provides room for revenue growth acceleration.

Key risks include slower-than-expected customer acceptance of price hikes, foundry cost increases outpacing ASP pass-through, and a slower ramp-up of incremental capacity.

Exhibit 14: We expect NCE Power to post 36% earnings CAGR in FY25-28E

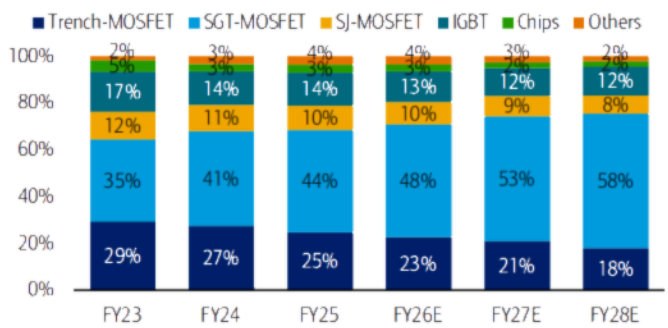
NCE Power - Summary of financial results

Rmb mn	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E	FY26E	FY27E	FY28E
Sales	449	481	456	492	517	598	663	702	2,370	3,173	3,806
COGS	(285)	(312)	(315)	(348)	(368)	(416)	(443)	(457)	(1,576)	(2,056)	(2,456)
Gross profit	164	169	141	143	149	181	219	245	794	1,117	1,350
Op profit	120	117	96	61	105	124	164	154	547	836	1,032
Pretax profit	121	146	112	62	108	141	180	170	601	909	1,095
Net income	108	127	99	59	95	126	161	152	552	815	983
Margins											
Gross margin	36.6%	35.1%	30.9%	29.2%	28.7%	30.3%	33.1%	34.9%	33.5%	35.2%	35.5%
Op margin	26.6%	24.2%	21.1%	12.3%	20.3%	20.7%	24.8%	22.0%	23.1%	26.3%	27.1%
Pretax margin	27.0%	30.4%	24.7%	12.6%	21.0%	23.6%	27.1%	24.2%	25.4%	28.6%	28.8%
Net margin	24.1%	26.4%	21.8%	12.0%	18.3%	21.1%	24.3%	21.7%	23.3%	25.7%	25.8%
QoQ growth											
Sales	-5%	7%	-5%	8%	5%	16%	11%	6%			
Gross profit	-3%	3%	-17%	2%	4%	22%	21%	12%			
Op profit	24%	-3%	-18%	-37%	73%	18%	33%	-6%			
Pretax profit	6%	21%	-23%	-45%	75%	30%	28%	-5%			
Net income	6%	17%	-22%	-41%	60%	33%	28%	-5%			
YoY growth											
Sales	21%	-4%	-6%	4%	15%	24%	45%	43%	26%	34%	20%
Gross profit	27%	-8%	-23%	-16%	-10%	8%	56%	71%	29%	41%	21%
Op profit	22%	-14%	-32%	-37%	-12%	6%	71%	154%	39%	53%	23%
Pretax profit	7%	10%	-13%	-46%	-11%	-4%	60%	174%	36%	51%	21%
Net income	8%	8%	-13%	-42%	-13%	-1%	62%	158%	40%	48%	21%

Source: Company. Global Research estimates

Exhibit 15: We expect the revenue share of SG-MOSFET to further increase in FY26-28E

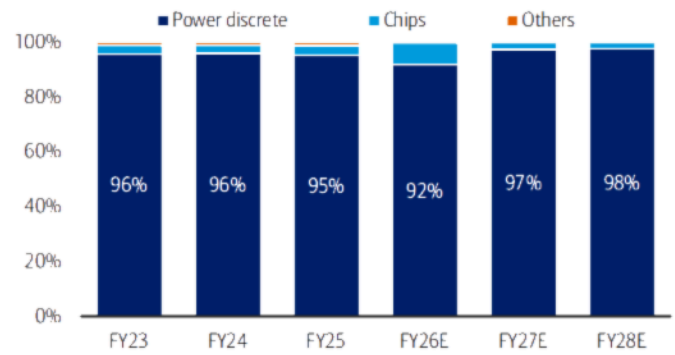
NCE Power - Revenue mix by product



Source: Company. Global Research estimates

Exhibit 16: Power discrete contribute nearly all gross profit

NCE Power - Gross profit breakdown by product



Source: Company. Global Research estimates

Exhibit 17: NCE Power is currently trading at 54x 12-month forward P/E with an historical average P/E of 43x

NCE Power - P/E chart (Jan 2021 - Jun 2026)

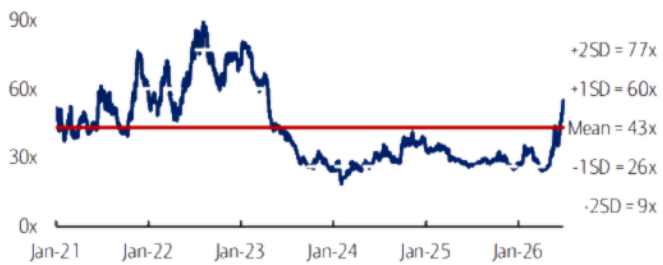
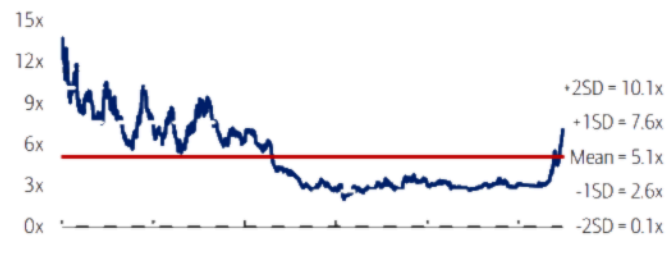


Exhibit 18: NCE Power is currently trading at 7.1x 12-month forward P/B with an historical average P/B of 5.1x

NCE Power - P/B chart (Jan 2021 - Jun 2026)



Silan (605111 CH) – Upgrade to Neutral; PO RMB57

We upgrade Silan to Neutral from Underperform, given: (1) improving profitability driven by gross margin expansion following recent price hikes; and (2) a better growth outlook, supported by stronger demand from AI compute and new energy applications. However, further re-rating following the recent share price rally could be limited, as we believe the share price has largely priced in the positives from the price hikes. Reflecting improving downstream demand and product price increases, we raise our FY26–28E earnings estimates by 52–63%. Rolling forward our valuation, we raise our PO to RMB57.0 from RMB20.3, based on 50x 2H27–1H28E P/E, vs. 36x 2Q26–1Q27E P/E previously. The target multiple is in line with the average of China power semiconductor peers.

Gross margin to recover following price hikes. Silan faced gross margin pressure in. 2023–2025, with blended gross margin declining 3.4ppts to 18.8% in 2025 from 2023, due to weaker pricing for power discrete products amid market competition. We expect Silan's blended gross margin to improve from 2Q26, as the company announced price increases of 10% effective 1 March, covering small-signal diode/transistor chips, trench TMBS chips, and MOS-related chips. We estimate that around 40% of total revenue could benefit from this round of price hikes. In addition, we see potential for further price increases in 2H26 across MOSFETs and IGBTs, driven by supply tightness and lengthening lead times across the supply chain.

Multiple demand drivers: AI server power, EVs and photovoltaic applications. We believe Silan has achieved a step change in product positioning, with its product mix shifting from over 90% exposure to low-/mid-end consumer electronics a few years ago to over 80–85% exposure today to higher-barrier customers and applications, such as large white goods and automotive. Silan is one of the leading players in China's low- / medium-voltage MOSFET market. Looking ahead, we see automotive and AI server power as key growth drivers, with low-/medium-voltage MOSFET revenue alone potentially growing at 20–30%+ annually. For AI servers, Silan is developing upgraded DrMOS, controller-based power systems and high-voltage DrMOS products to capture this opportunity.

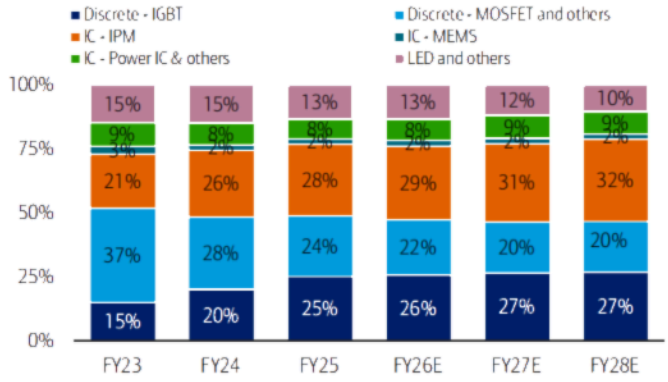
Exhibit 19: We expect Silan to post 73% earnings CAGR in FY25-28E thanks to GPM expansion and low base in FY25

Silan - Summary of financial results

Rmb mn	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E	FY26E	FY27E	FY28E
Sales	3,000	3,336	3,377	3,339	3,519	3,925	4,234	4,446	16,123	18,897	21,849
COGS	(2,360)	(2,682)	(2,769)	(2,782)	(2,823)	(3,036)	(3,265)	(3,432)	(12,556)	(14,502)	(16,699)
Gross profit	639	654	608	556	696	889	969	1,014	3,567	4,395	5,149
Op profit	267	207	120	20	305	365	360	468	1,498	2,093	2,630
Pretax profit	110	54	36	(63)	182	252	229	377	1,057	1,591	1,988
Net income	149	116	84	49	209	283	278	437	1,225	1,720	2,076
Margins											
Gross margin	21.3%	19.6%	18.0%	16.7%	19.8%	22.6%	22.9%	22.8%	22.1%	23.3%	23.6%
Op margin	8.9%	6.2%	3.5%	0.6%	8.7%	9.3%	8.5%	10.5%	9.3%	11.1%	12.0%
Pretax margin	3.7%	1.6%	1.1%	-1.9%	5.2%	6.4%	5.4%	8.5%	6.6%	8.4%	9.1%
Net margin	5.0%	3.5%	2.5%	1.5%	5.9%	7.2%	6.6%	9.8%	7.6%	9.1%	9.5%
QoQ growth											
Sales	-1.9%	11.2%	1.2%	-1.1%	5.4%	11.5%	7.9%	5.0%			
Gross profit	12.5%	2.3%	-7.0%	-8.6%	25.2%	27.6%	9.0%	4.6%			
Op profit	115.9%	-22.5%	-42.2%	-82.9%	1392.4%	19.8%	-1.6%	30.2%			
Pretax profit	101.6%	-50.8%	-33.0%	NM	NM	38.0%	-9.1%	64.7%			
Net income	-22.2%	-21.8%	-27.5%	-41.3%	322.0%	35.6%	-1.7%	57.1%			
YoY growth											
Sales	21.7%	18.8%	16.9%	9.2%	17.3%	17.7%	25.4%	33.2%	23.5%	17.2%	15.6%
Gross profit	17.3%	29.6%	16.1%	-2.2%	8.9%	35.8%	59.3%	82.2%	45.1%	23.2%	17.2%
Op profit	55.0%	238.0%	104.3%	-83.5%	14.4%	76.7%	200.6%	2190.2%	144.1%	39.7%	25.7%
Pretax profit	NM	NM	NM	NM	65.6%	364.5%	530.5%	NM	667.5%	50.6%	24.9%

Exhibit 20: IGBT, MOSFET and other power discretes accounts for nearly 50% of total revenue

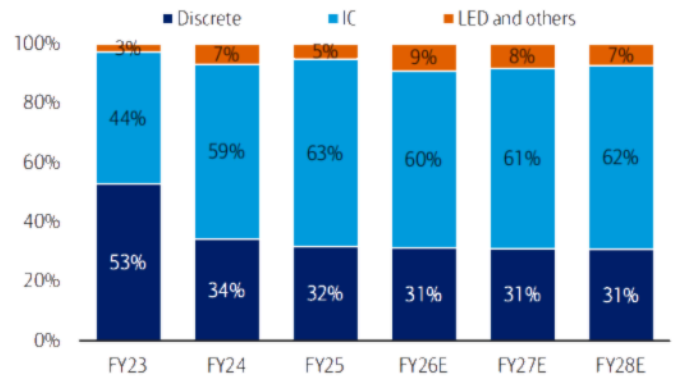
Silan - revenue breakdown by segment



Source: Company. Global Research estimates

Exhibit 21: Power discretes and ICs contribute more than 90% of total gross profit

Silan - gross profit breakdown by segment



Source: Company. Global Research

Exhibit 22: Silan is currently trading at 60x 12-month forward P/E with an historical average P/E of 74x

Silan - P/E chart (Jan 2021 - Jun 2026)



Source: Bloomberg, Global Research estimates

Exhibit 23: Silan is currently trading at 6.1x 12-month forward P/B with an historical average P/B of 6.2x

Silan - P/B chart (Jan 2021 - Jun 2026)



Source: Bloomberg, Global Research estimates

Secular growth of China power semis industry

According to SIA, global power discrete market size was US$28.9bn in 2025. Global power discrete market size is expected to grow at an 8% CAGR in 2025-28E, as estimated by Gartner. China is the largest single market for power discrete, accounting for ~40% of global market in 2025, according to SIA. China power discrete market size was US$13.2bn in 2025 and we expected it to grow at a CAGR of 10% to US$17.7bn in 2028E. By application segment, compute & storage could be the fastest growing segment in 2025-28E, followed by industrial and automotive, and we expect contribution from compute & storage to increase from 9% in 2025 to 15% in 2028E.

Exhibit 24: China power discrete market is expected to grow at a CAGR of 10% in 2025-28E

China power discrete market size (US$ bn)

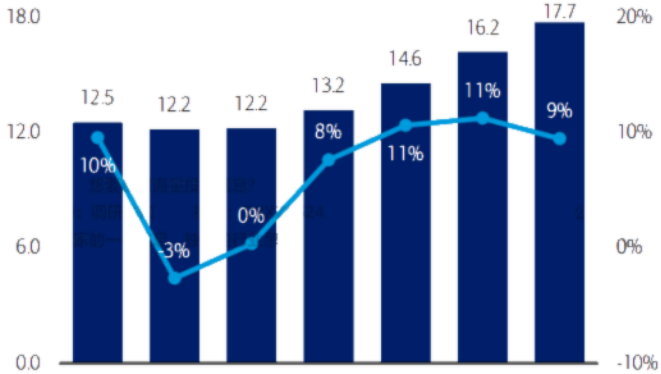
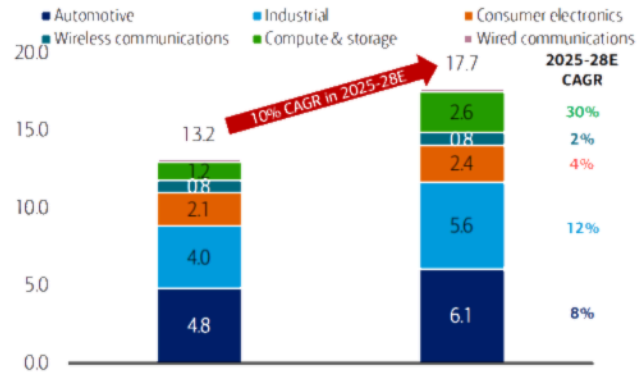


Exhibit 25: Compute & data storage to lead the growth, followed by industrial and auto

China power discrete market size forecast by application (US$bn)



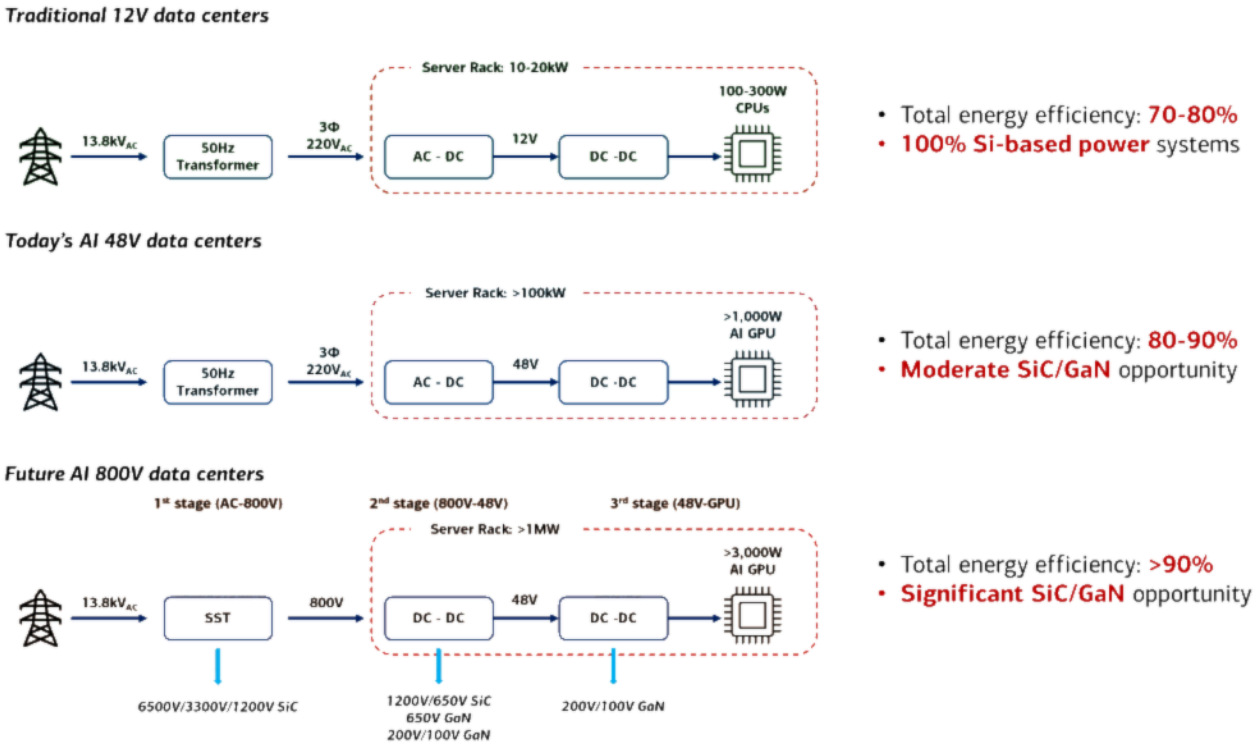
Surging demand from AI compute

AI development is structurally increasing demand for power semi devices including MOSFETs, GaN, and SiC, as AI workloads require significantly higher power density than traditional CPU-based computing. Large-scale training and inference clusters rely on thousands of GPUs, high-bandwidth memory, networking switches, storage systems and cooling equipment, all of which require efficient power conversion and power management.

For example, MOSFETs are core power semiconductor devices used to switch, regulate, and convert electrical power. In AI servers, high-voltage MOSFETs are typically used in AC-DC power supply stages, including power-factor correction (PFC) and LLC conversion, while low-voltage MOSFETs are used in intermediate-bus conversion and point-of-load voltage regulation close to GPUs. As rack-level power increases, the system requires more power supply units, DC-DC converters, voltage regulation modules, hot-swap protection and backup power systems. This directly increases MOSFET content per server, per rack and per data center.

Beyond AI servers, MOSFET demand should also benefit from growth in adjacent AI infrastructure. Higher data storage demand drives incremental SSDs (Solid-State Drive), HDDs (Hard Disk Drive) and storage servers, and faster networking drives more switches and optical modules. Overall, AI development is expanding MOSFET demand across the broader compute ecosystem, from grid-to-rack power delivery architecture to board-level voltage regulation, making MOSFETs one of the key enabling components behind AI infrastructure scaling.

Exhibit 26: SiC and GaN technologies are increasing their share in AI data centers with rising server rack power density
Evolution of AI data center power architectures



Source: Navitas, TrendForce, Global Research

As server rack power density increases from the kilowatt to near-megawatt range, SiC and GaN technologies are taking a higher share in AI data centers, driven by the adoption of high-voltage architectures

SiC is critical for front-end and mid-stage power conversion in data center architectures, managing the highest voltages and power loads. Solid-state transformers (SSTs) are well suited to any scenario requiring efficient medium-voltage AC-to-DC conversion, including AI data centers, and SiC is a key enabler for next-generation SSTs, given its superior thermal performance and switching characteristics.

Given its high-frequency and high-efficiency properties, GaN is becoming increasingly popular in mid- and end-stage power conversion, supporting ultra-high-power density and quick dynamic responses. As AI drives up power consumption and density requirements, HVDC architectures and high-efficiency conversion designs are becoming the industry standard. GaN components can effectively reduce conduction and switching losses, allowing for significantly smaller magnetic components and a reduced thermal footprint.

Data center: $25bn TAM from rack to core

BofA US Semiconductor team estimates that data-center analog semi opportunity (including silicon discrete power, silicon carbide / SiC, gallium nitride / GaN, analog ICs, MCUs, sensors) grows from US$7.6bn in 2025 to US$25.0bn in 2030E, a ~26% CAGR, with growth near +60-80% 2026/27E as high-power AI racks ramp into 2027. As AI racks scale from sub-100kW systems to 600kW+ sidecar designs and eventually 1MW+ hybrid-microgrid architectures, overall content per rack grows, but the component value mix migrates. In lower power racks, content is spread across conventional rack PSUs, 48V distribution, switching, CPU/GPU board power, optics, sensing, and timing. As racks move into the 600kW+ class, this value shifts towards sidecar power delivery, high voltage intermediate conversion, optics, protection, PCS (power conversion

phase, the rack is still power supply-heavy, but the PSU evolves from a simple in-rack box to a higher power sidecar system feeding increasingly dense GPU tray. Overall, analog semi content is expected to surge from US$36K per 100-160kW rack today to almost US$300K per rack at 600kW and potentially up to US$917K after 1MW, according to BofA US Semiconductor team (see report - Watts to Tokens).

Exhibit 27: BofA global semi team estimate analog semi content will surge from $36K per 100-160kW rack today to almost $300K per rack at 600kW and potentially up to $917K after 1MW

Evolution of component content as racks increase in power capacity

	<100kW per rack		<160kW per rack		600+kW per rack		1MW class racks	
Components	Content	%	Content	%	Content	%	Content	%
Switching Infrastructure	$1,589	9%	$3,284	9%	$9,364	3%	$18,727	2%
PSU	$2,938	17%	$5,760	16%	$29,250	10%	$29,250	3%
BBU	$395	2%	$840	2%	$6,300	2%	$6,300	1%
48V Bus Converter | HV IBC	$1,271	7%	$2,700	7%	$43,200	15%	$216,000	24%
GPU Board	$4,320	25%	$9,720	27%	$68,040	23%	$272,160	30%
Smart NIC cards	$691	4%	$864	2%	$3,600	1%	$10,368	1%
Protection	$424	2%	$900	2%	$7,200	2%	$28,800	3%
Optical Infrastructure	$1,728	10%	$4,401	12%	$43,963	15%	$131,888	14%
HBM PMIC/memory power	$813	5%	$1,728	5%	$8,640	3%	$34,560	4%
CPU complex and power	$1,382	8%	$3,240	9%	$45,360	16%	$136,080	15%
Clocks and timing	$518	3%	$792	2%	$2,592	1%	$5,184	1%
Signal Chain Sensing	$1,210	7%	$2,088	6%	$4,176	1%	$8,352	1%
PCS	$0	0%	$0	0%	$19,500	7%	$19,500	2%
Total	$17,280	100%	$36,317	100%	$291,184	100%	$917,170	100%

Source: estimates, company reports, Gartner, Omdia, Infineon, Nvidia; Note: analog semi include silicon discrete power, silicon carbide / SiC, gallium nitride / GaN, analog ICs, MCUs, sensors

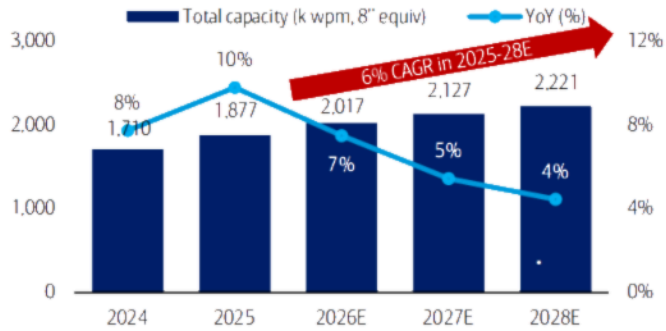
Disciplined new capacity expansion in coming years

Despite robust downstream demand, capacity expansion among leading domestic power semiconductor IDMs remains disciplined. We estimate that total capacity (8-inch equivalent) for key players including Silan, CR Micro, CRRC Times Electric, Yangjie Technology, Jiejie Micro, and StarPower will grow at a moderate pace of 4–7% p.a. over 2026–28E, implying a 6% CAGR in 2025-2028E.

On the global front, major power semiconductor companies experienced a capex pullback in 2024-25. Global power semiconductor IDMs have been reallocating capex toward higher-value technologies rather than broad-based mature discrete capacity. Over 2024–25, Infineon focused on its Kulim 200mm SiC/GaN expansion and Dresden Smart Power Fab; On Semi prioritized vertically integrated SiC capacity and GaN power development; while STMicroelectronics concentrated investments on 300mm silicon and 200mm SiC. Looking into 2026–27, disclosed investment priorities remain centered on SiC, GaN, smart power/BCD, analog mixed-signal and AI data center power. This suggests limited incremental capacity for traditional low-/mid-voltage power discretes, supporting a more constructive supply-demand backdrop for selected Chinese MOSFET suppliers.

Exhibit 28: Power semis capacity of leading domestic IDMs is expected to see 4-7% expansion p.a., or 6% CAGR in 2025-28E

Total power semis capacity of leading domestic IDMs (k wpm, 8" equiv)

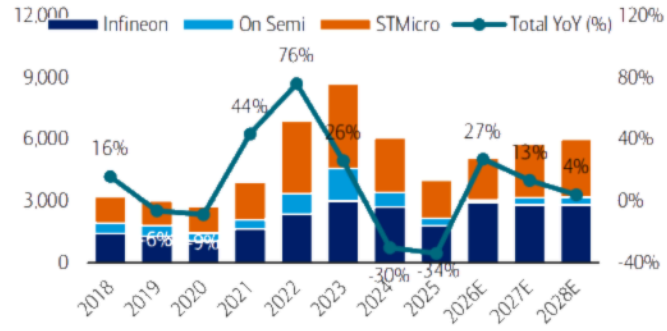


Source: Companies, Times Electric and StarPower

Note: include Yangjie, Silan, CR Micro, Jiejie Micro, CRRC

Exhibit 29: Total capex of Infineon, On semi and STMicro is expected to increase in 2026-28E, while not focusing on MOSFET

Capex trends of key global power semis players (US$mn)



Source: Companies, allocated to MOSFET

estimates; Note: total capex, which is not solely

Industry-wide price hike by major players

The global power semiconductor industry has entered a clear price-hike cycle since Feb 2026. The increases initially started with MOSFETs in Feb–Mar, then expanded into IGBTs, power chips, and broader product portfolios in May–Jun. By product type, we see low voltage power devices such as MOSFETs have tighter supply than IGBTs. The key drivers are rising upstream costs including metals, wafers, foundry services, and packaging materials, plus stronger demand from AI data centers, new energy vehicles, and energy storage, which have prompted both China and global power semiconductor vendors to raise product prices (Exhibit 30), including CR Micro, Silan NCE Power, Infineon, On Semi and Texas Instruments.

Exhibit 30: A new round of price hike in power semis industry was triggered by rising upstream raw material costs, coupled with strong demand from AI computing, EVs and energy storage

Recent price increase by China and global power semis companies

Company	Product Scope	Price Increase	Effective time
CR Micro	All products	10%+	From 1 Feb 2026
Silan	Small-signal diode/transistor chips, trench TMBS chips, MOS-type chips	10%	From 1 Mar 2026
NCE Power	MOSFET products	10%+	From 1 Mar 2026
Jiejie Micro	MOSFET, IGBT products, thyristors	MOSFET: 10–20%	MOS: From 1 Feb 2026
		IGBT: 10–20%	IGBT: From 1 May 2026
		Thyristor: 10-20%	Thyristor: From 3 Feb 2026
Yangjie Technology	All products	10-15%	From 1 Jul 2026
MacMic Science & Technology	IGBT discrete devices and modules, MOSFET devices	Not disclosed	From 1 Mar 2026
Infineon	Certain products (exact product types were not disclosed)	Not disclosed	From 1 Jul 2026
On Semi	A limited range of products (exact product types were not disclosed)	Not disclosed	From 1 Apr 2026
Texas Instruments	PMICs and MOSFETs, etc.	Not disclosed	From 1 Jul 2026

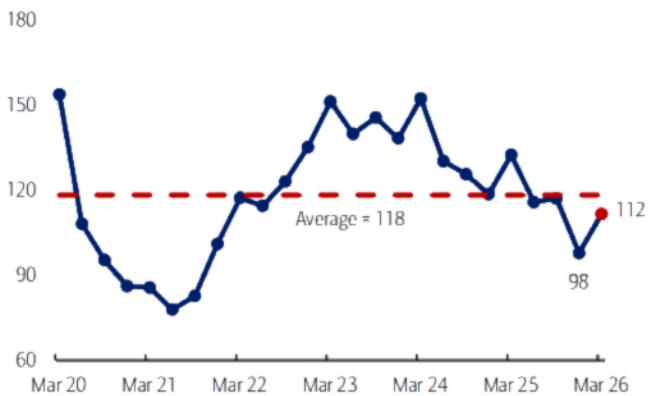
Exhibit 31: The lead time for power discrete in 2Q26 has increased compared to 4Q25
Product lead time in power discrete

Product	Company	Lead time					
		1Q25 (Mar)	2Q25 (Jun)	3Q25 (Sep)	4Q25 (Nov)	1Q26 (Mar)	2Q26 (Jun)
LV MOSFET	Diodes	12-40	12-40	12-40	12-40	12-40	12-52
LV MOSFET	IFX	8-26	8-26	8-39	8-52	12-52	12-52+
LV MOSFET	ON	7-38	7-38	6-42	8-42	10-52	10-52
LV MOSFET	STM	13-32	13-32	13-26	13-26	10-23	10-23
LV MOSFET	Vishay	8-36	8-36	8-40	8-52	12-52	12-52+
HV MOSFET	IFX	8-40	8-40	9-49	9-39	12-52	12-52+
HV MOSFET	ON	4-19	4-19	6-40	7-34	7-50	10-52
HV MOSFET	Rohm	12-26	12-26	12-26	12-26	12-26	12-36
HV MOSFET	STM	13-32	13-32	13-26	13-26	13-26	12-26
HV MOSFET	Vishay	8-28	8-28	8-40	12-50	12-52	12-52+
IGBT	ON	8-37	8-37	8-29	8-31	8-31	3-32
IGBT	IFX	12-52	12-52	10-42	10-44	10-44	12-52
IGBT	STM	14-32	14-32	14-20	14-20	14-20	14-24

Source: Future Electronics. Note: If lead time is longer vs. previous period, the number is marked in Red

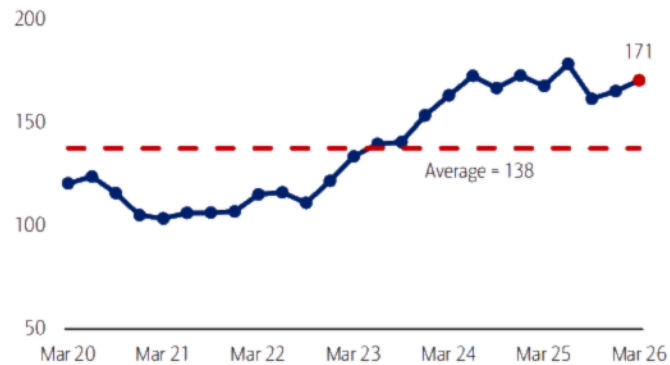
For major domestic vendors, we see lower inventory levels in recent quarters, with the DOI in 4Q25-1Q26 (as low as 98 days in 4Q25) lower than the historical average level of 112 days since 1Q20.

Exhibit 32: The DOI is below the historical average level in 1Q26
Inventory days trend of major Chinese power devices companies



Source: Companies, estimates; Note: Companies included in the calculation are Silan, CR Micro, Yangjie, StarPower, Jiejie Micro, and NCE Power

Exhibit 33: The DOI has been at a relatively high level for global companies in the most recent quarter
Average DOI for leading global power semis companies



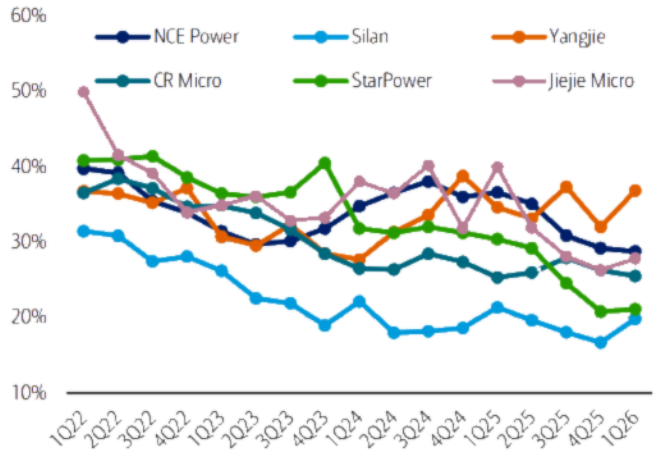
Source: Companies, STMicro. Note- Calculation includes Infineon, ON Semi and

Promising GPM recovery in 2026

GPM for major power semiconductor companies in China bottomed out since 4Q25 followed by a solid recovery in 1Q26 (Exhibit 34). Looking forward, we see further GPM recovery in coming quarters in 2026, driven by 1) industry-wide price hikes, and 2) a favorable revenue mix shifts toward higher-value products.

Exhibit 34: GPM for major Chinese power semis companies has largely bottomed out since 4Q25

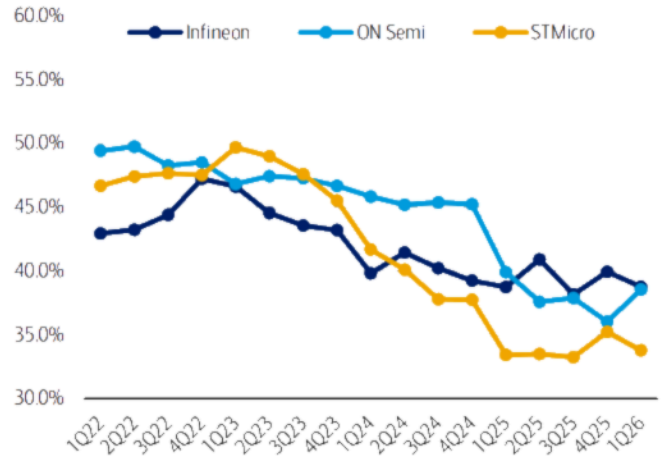
Quarterly GPM trend for domestic players (1Q22-1Q26)



Source: Companies, Global Research

Exhibit 35: GPM largely stabilized for leading global power semis players in recent quarters

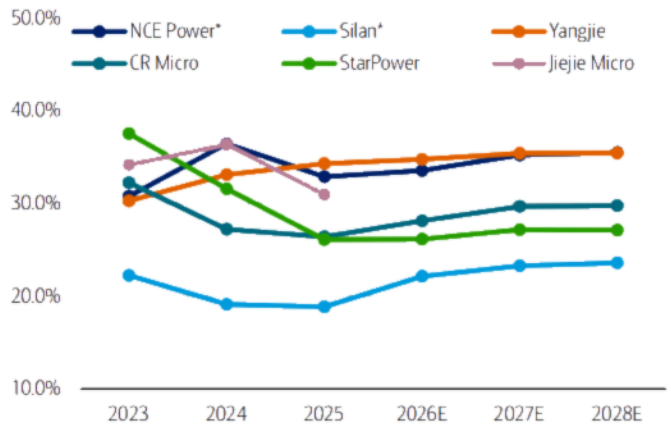
Quarterly GPM trend for leading global players (1Q22-1Q26)



Source: Companies, Global Research

Exhibit 36: Leading domestic power semis companies are expected to post improving GPM in FY26-28E

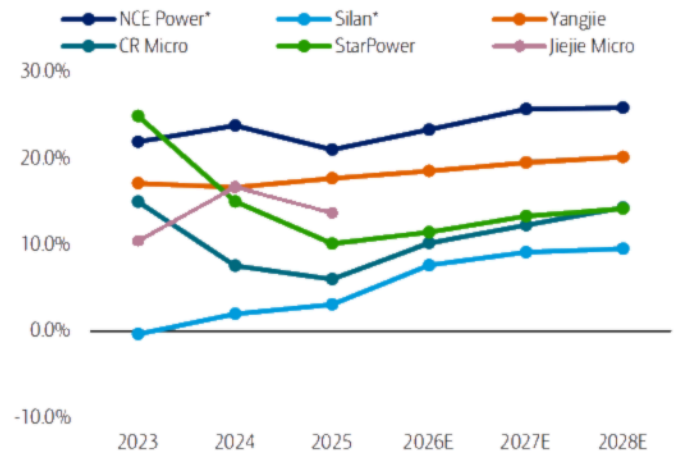
GPM trend for leading domestic power semis companies



Source: Bloomberg, Global Research estimates (*)

Exhibit 37: NCE Power is expected to have higher NPM than peers

NPM trend of leading domestic power semi companies



Source: Bloomberg, Global Research estimates (*)

Peer comparison

Exhibit 38: Silan and CR Micro lead in revenue scale among China power semis vendors

China power discrete company's peers comparison

Company	NCE Power	Silan	CR Micro	Yangjie Electronic	StarPower	Jiejie Microelectroni
Ticker	605111 CH	600460 CH	688396 CH	300373 CH	603290 CH	300623 CH
Chinese name	新洁能	士兰微	华润微	扬杰科技	斯达半导	捷捷微电
Year of establishment	2013	1997	1997	2006	1995	1995
Business model	Fabless	IDM	IDM	IDM	Fab-Lite	IDM + Fabless
Revenue breakdown (FY25, %)						
by application	(1) Industrial control and automation: 32% (2) Automotive: 20% (3) PV + energy storage: 16% (4) Consumer: 13% (5) UAV & robotics: 11% (6) AI compute & communications: 5% (7) Others: 3%	(1) Home appliance: 30% (2) Auto: 25-30% (3) New energy: 15-20% (4) Industrial: 10% (5) Others: 15-20%	(1) Renewable energy and automotive: 44% (2) Consumer electronics: 34% (3) Industrial equipment: 12% (4) Communication equipment: 10%	(1) Consumer electronics: 25-30% (2) Industrial: 25% (3) Automotive: 15-20% (4) Power & Energy: 20% (5) Others: 10%	(1) Renewable energy (incl. new energy vehicle): 64% (2) Industrial control and power: 26% (3) Inverter white goods and others: 11%	(1) Consumer electronics ~40% (2) Industrial (incl. renewable energy): 35-40% (3) Automotive: ~20% (4) Others (incl. communication): 5%
by product / segment	(1) MOSFET: 79% (2) IGBT: 14% (3) Chips and others: 7%	(1) IGBT: 25% (2) MOSFET: 24% (3) IC (IPM, MEMS, Power IC): 39% (3) LED: 6% (4) Others: 8%	For self-products: (1) MOSFET: c.50% (2) IGBT & SiC: c.15% (3) Power IC: c.15% (4): Other power semis products: c.10% (5) Sensor & MCU: c.10%	(1) Diode, BJT, protection devices: 50-55% (2) MOSFET, small signal: 30-35% (3) IGBT: c.10%	(1) IGBT: 83% (2) Others: 16%	(1) MOSFET: 50% (2) Protection devices: 32% (2) Thyristor and others: 18%
by sales channel	(1) Direct sales: 35% (2) Distribution: 65%	N/A	1) Direct sales: 62% (2) Distribution: 38%	(1) Direct sales: 58% (2) Distribution: 32% (3) Others: 2%	(1) Direct sales: 86% (2) Distribution: 14%	Direct sales: 100%
Financial comparison (FY25, Rmb mn)						
Revenue	1,877	13,052	11,054	7,130	4,012	3,494
Revenue CAGR (FY25-28E)	27%	19%	18%	22%	20%	N/A
Net income / (loss)	394	399	661	1,259	405	477
GPM (%)	32.9%	18.8%	26.4%	34.3%	26.1%	30.9%
NPM (%)	21.0%	3.1%	6.0%	17.7%	10.1%	13.6%
S&M to sales ratio (%)	1.5%	1.5%	1.6%	4.1%	0.9%	2.2%
G&A to sales ratio (%)	3.6%	3.9%	5.2%	5.5%	3.8%	5.5%
R&D to sales ratio (%)	6.3%	8.4%	10.6%	6.6%	12.0%	5.8%
Net debt / (cash) to equity (%)	-34.7%	4.4%	-41.3%	-18.1%	8.9%	6.2%
Number of R&D staff (FY25)	145	4,475	1,801	1,085	782	472
Total patent no. / Invention patent no. (FY25)	249 / 130	Not disclosed	2547 / 2187	Not disclosed	Not disclosed	332 / 117

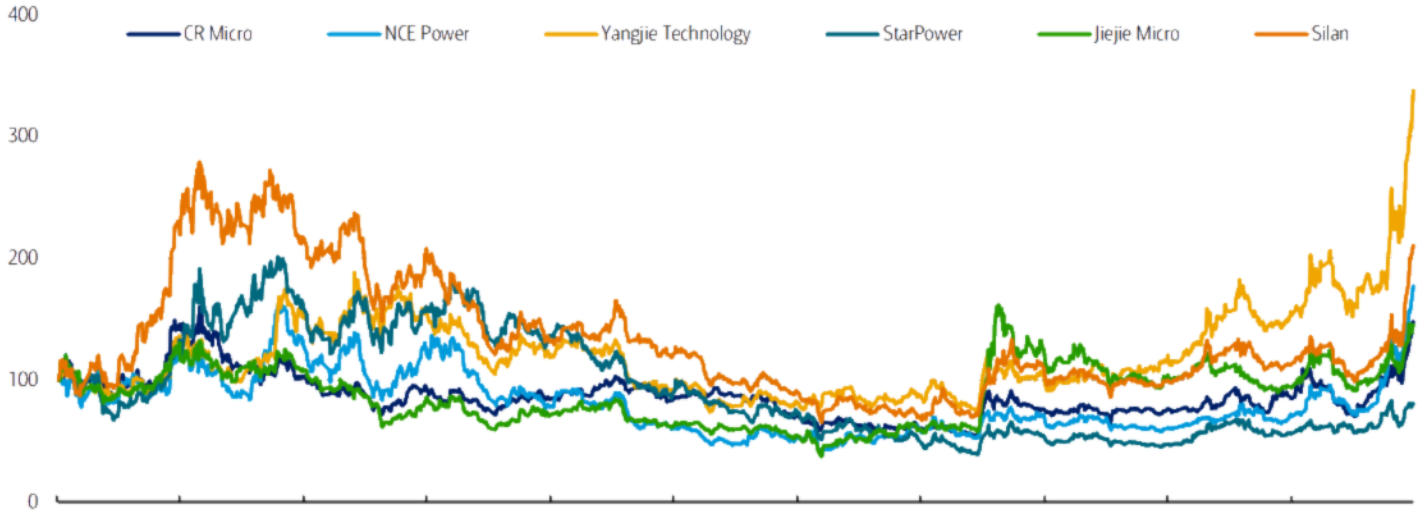
Exhibit 39: Chinese power semis companies currently focus on the consumer and industrial segments

End market exposure for major Chinese power semis companies (FY25)

Company	Consumer	Industrial	Automotive	Power & Energy	Others (inc. compute & communications, etc)
NCE Power	13%	32%	20%	16%	19%
Silan	30%	10%	20-25%	15-20%	15-20%
Yangjie	30%	25%	15%	20%	10%
CR Micro	34%	12%	20-25%	20%	10%
StarPower	11%	26%	50%	10-15%	0%

Exhibit 40: Share price of major power semi companies in China performed well YTD

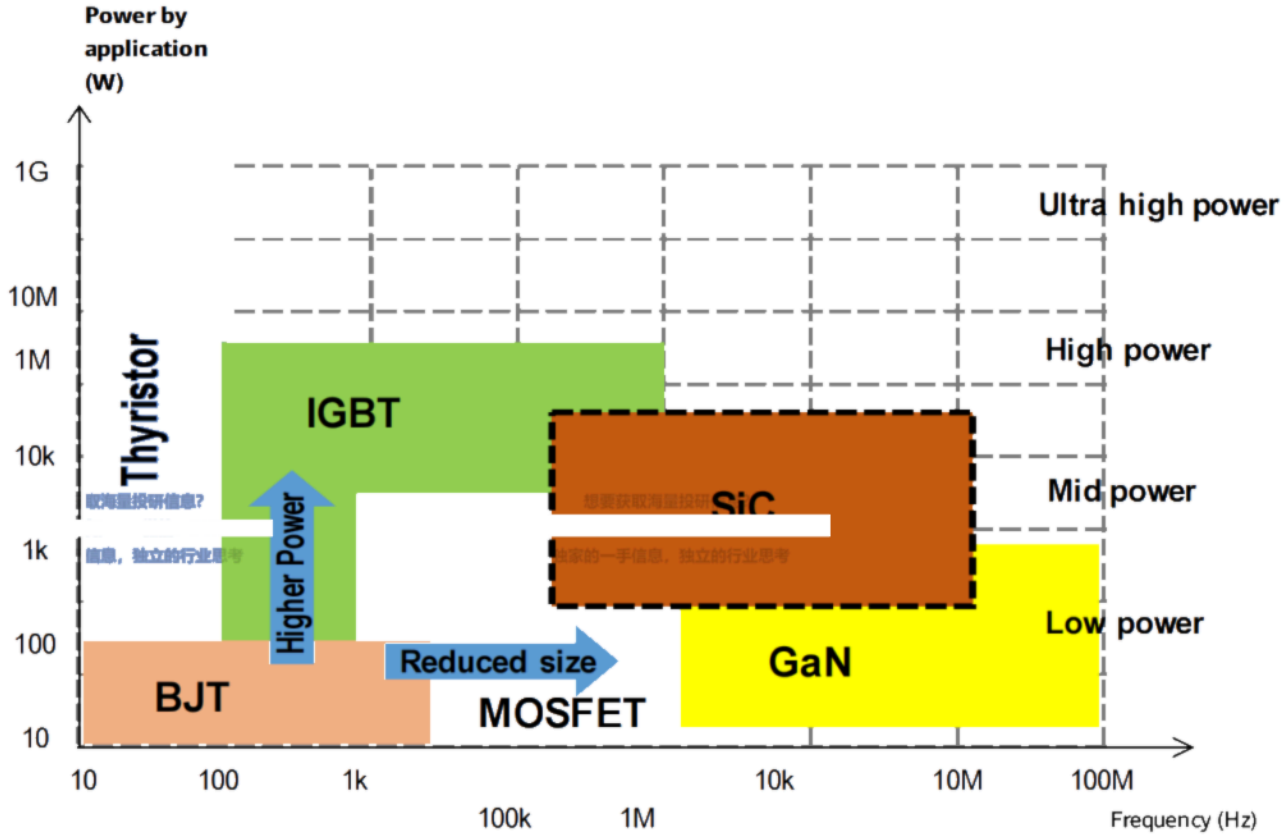
Share price performance of major power semi company in China (since 2021)



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Appendix

Exhibit 41: Power discrete application by frequency and voltage / power consumption
A snapshot of which kind of power discrete fits into different requirement



Source: Company data

Exhibit 42: List of acronyms in the report
Glossary table

Abbreviation	Full name	Abbreviation	Full name
AI	Artificial intelligence	IGBT	Insulated gate bipolar transistor
AIDC	AI data center	LLC	Inductor–Inductor–Capacitor
ASP	Average selling price	KWPM	Thousand wafers per month
BCD	Bipolar-CMOS-DMOS	MOSFET	Metal-oxide-semiconductor field-effect transistor
CAGR	Compound annual growth rate	NPM	Net profit margin
CAPEX	Capital expenditure	OPM	Operating profit margin
COGS	Cost of goods sold	PSU	Power supply unit
CRRC	China railway rolling stock corporation	PV	Photovoltaic
DOI	Days of inventory	ROE	Return on equity
DrMOS	Driver-MOSFET	SG-MOSFET	Suspended-gate MOSFET
EV	Electric vehicle	SGT MOSFET	Shielded-gate trench MOSFET
GPM	Gross profit margin	SJ-MOSFET	Superjunction MOSFET
GPU	Graphics processing unit	SSD	Solid-state drive
HDD	Hard disk drive	SST	Solid-state transformer
HVDC	High voltage direct current	TMBS	Trench MOS barrier Schottky

Investment Rationale

Hangzhou Silan Microelectronics

We have an Neutral rating on Silan Microelectronics given (1) improving profitability driven by gross margin expansion following recent price hikes, and (2) a better growth outlook, supported by stronger demand from AI compute and new energy applications. However, further stock re-rating following the recent share price rally could be limited, as we believe the share price has largely priced in the positives from the price hikes.

Price objective basis & risk

Hangzhou Silan Microelectronics (XDFRF, RMB52.59, B-2-7)

Our PO of RMB57 is based on 50x 2H27-1H28E P/E, which is set as the average of China power semi IDM due to similar growth.

Upside risks: (1) better-than-feared price competition from global and local peers (2) faster-progress to high-end market segment including silicon carbide and autos, and (3) higher-than-expected capacity utilization.

Downside risks: (1) slower-than-expected end-demand that translates into headwinds for growth (2) fiercer-than-expected competition from domestic peers, that translates into margin pressure (3) execution risk in ramping up capacity and yield, that translates into slower traction in gaining design wins and product mix upgrade.

I, Daley Li, CFA, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

APR - Semiconductor Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	Alchip	ALCPF	3661 TT	Haas Liu
	AMEC	XRTOF	688012 CH	Dai Shen
	ASE Technology Holding	XSRIF	3711 TT	Haas Liu
	ASE Technology Holding -ADR	ASX	ASX US	Haas Liu
	ASMPT	ASMVF	522 HK	Simon Woo, CFA
	Aspeed	XLKMF	5274 TT	Mike Yang
	Chroma ATE	CRMJF	2360 TT	Haas Liu
	eMemory	XYLWF	3529 TT	Mike Yang
	GigaDevice	XGXIF	603986 CH	Daley Li, CFA
	Global Unichip Corp.	GBUHF	3443 TT	Haas Liu
	Grand Process Technology Corp	XZOWF	3131 TT	Haas Liu
	Hanmi Semiconductor	HNSIF	042700 KS	Simon Woo, CFA
	Hon Precision	XXPIF	7769 TT	Haas Liu
	Horizon Robotics	HRZRF	9660 HK	Daley Li, CFA
	Ingenic	XISCF	300223 CH	Dai Shen
	InnoScience Technology	XSCHF	2577 HK	Daley Li, CFA
	JCET Group Co Ltd	XJIEF	600584 CH	Dai Shen
	King Yuan Electronics Corp.	KYUFF	2449 TT	Haas Liu
	Kinik	KIKCF	1560 TT	Haas Liu
	MediaTek	MDTKF	2454 TT	Haas Liu
	Montage Technology	XRDFF	688008 CH	Daley Li, CFA
	MPI Corporation	XMJCF	6223 TT	Mike Yang
	Nanya Technology	NNYAF	2408 TT	Simon Woo, CFA
	NCE Power	XVFFF	605111 CH	Daley Li, CFA
	OmniVision	XXHQF	603501 CH	Dai Shen
	Phison Electronics	PISNF	8299 TT	Simon Woo, CFA
	Powerchip Semiconductor Manufacturing Co	XCHPF	6770 TT	Haas Liu
	Powertech Technology	XPPZF	6239 TT	Simon Woo, CFA
	Rockchip	XRPXF	603893 CH	Daley Li, CFA
	Samsung C&T	XCDTF	028260 KS	Simon Woo, CFA
	Samsung Elec -G	SSNHZ	SMSN LI	Simon Woo, CFA
	Samsung Electronics	SSNLF	005930 KS	Simon Woo, CFA
	Samsung Electronics Preferred	SSNNF	005935 KS	Simon Woo, CFA
	Silergy Corp.	SLEGF	6415 TT	Mike Yang
	Silicon Motion	SIMO	SIMO US	Simon Woo, CFA
	SK Square	SKSQF	402340 KS	Simon Woo, CFA
	Taiwan Semiconductor Manufacturing Co.	TSM	TSM US	Haas Liu
	Taiwan Semiconductor Manufacturing Co.	TSMWF	2330 TT	Haas Liu
	Vanguard International Semiconductor Co	VGILF	5347 TT	Haas Liu
	Winbond Electronics	WBEKF	2344 TT	Dai Shen
	WinWay Technology	XWCLF	6515 TT	Mike Yang
	WT Microelectronics	XZOPF	3036 TT	Mike Yang
NEUTRAL				
	ASMedia Technology Inc.	XZSFF	5269 TT	Mike Yang
	Black Sesame Intl Holding	BSIHF	2533 HK	Daley Li, CFA
	Crystal Clear	XPPTF	300655 CH	Dai Shen
	Hangzhou Silan Microelectronics	XDFRF	600460 CH	Daley Li, CFA
	LX Semicon	XLXSF	108320 KS	Simon Woo, CFA
	Novatek	NVKMF	3034 TT	Haas Liu
	Realtek	RLTKF	2379 TT	Mike Yang
	Shenzhen Goodix	XQPLF	603160 CH	Daley Li, CFA
UNDERPERFORM				
	Faraday	FDYTF	3035 TT	Haas Liu
	GlobalWafers	XWLFF	6488 TT	Mike Yang
	Hua Hong Semi	HHUSF	1347 HK	Dai Shen
	Lion Electronics	XDHFF	605358 CH	Dai Shen
	M31 Technology	XMTZF	6643 TT	Mike Yang
	Macronix International	MXICF	2337 TT	Dai Shen
	Maxscend	XMXSF	300782 CH	Daley Li, CFA
	Parade	PRDWF	4966 TT	Mike Yang
	Soulbrain	XSBOF	357780 KS	Simon Woo, CFA
	United Microelectronics Corp.	XUMIF	2303 TT	Haas Liu