

COMPANY UPDATE

2026. 6. 17

EV/Mobility Team

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▶ AT A GLANCE

Not Rated

Target price n/a

Current price **KRW147,900**

Market Cap KRW1.5t/USD1.0b

Shares (float) 10,395,000 (71.8%)

52-week high/low KRW156,200/KRW25,300

Avg daily trading value (60-day) KRW91.7b/
USD60.7m

▶ ONE-YEAR PERFORMANCE

	1M	6M	12M
Samwha Capacitor (%)	126.8	366.6	474.4
Vs Kospi (%pts)	94.8	113.8	93.9

▶ SAMSUNG vs THE STREET

No of estimates	n/a
Target price	n/a
Recommendation	n/a

※ Rating: 4 < → BUY, 3 = HOLD, 2 > → SELL



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Samwha Capacitor (001820)

Why capacitors matter in robot cooling

- Samwha Capacitor derives over 50% of its sales from MLCC and 20% from DC-link products, both of which are essential components for robot thermal management.
- When actuators require instantaneous torque, capacitors deliver transient power, suppressing overall system electrical heat generation.
- With the role of capacitors continuing to expand in the AI era, Samwha Capacitor is entering a long-term growth cycle.

WHAT'S THE STORY

Growth sustainable into physical-AI era: Beyond data-center power infrastructure and EVs, capacitors are now indispensable in robotics.

- **Key functions:** Capacitors serve three key functions: 1) power stabilization—they stabilize power by delivering quick bursts of current when components like CPUs, GPUs, inverters, or industrial machines need sudden energy spikes; 2) noise filtering—they filter out electrical noise by diverting high-frequency interference to ground, leaving only clean, reliable signals; and 3) AC/DC separation—they block direct current (DC) while allowing alternating current (AC) to pass through, making them vital as filters in signal-processing circuits.
- **Expanding role of capacitors in the AI era:** Samwha Capacitor began as a manufacturer of disc ceramic capacitors (DCCs) for home appliances and has since expanded production to include multi-layer ceramic capacitors (MLCCs), automotive DC-link capacitors, and film capacitors used in factories and power plants. Its growth drivers are MLCCs and DC-link capacitors, which together account for 70% of total sales.

(Continued on the next page)

SUMMARY FINANCIAL DATA

	2022	2023	2024	2025
Revenue (KRWb)	263	281	295	294
Operating profit (KRWb)	31	24	18	13
Net Profit (KRWb)	29	21	22	13
EPS (adj) (KRW)	2,803	2,002	2,100	1,206
EPS (adj) growth (%)	2.5	(28.6)	4.9	(42.6)
EBITDA margin (%)	18.9	16.1	12.3	10.3
ROE (%)	13.7	8.9	8.6	4.6
P/E (adj) (x)	n/a	n/a	n/a	n/a
P/B (x)	n/a	n/a	n/a	n/a
EV/EBITDA (x)	(1.1)	(1.3)	(2.3)	(2.9)
Dividend yield (%)	n/a	n/a	n/a	n/a

Source: Company data, Samsung Securities estimates

- **Capacitors help manage heat in robots:** Unlike EVs, robots rely primarily on air cooling for thermal management. Actuators and capacitors are critical components—actuators are the main source of heat, while capacitors regulate instantaneous power output to control overall system heat generation. Robots incorporate 40-50% more MLCCs than smartphones do.

In robotics, capacitors serve as power dams that prevent electrical heat generation at its source.

- **Peak current buffering:** When robots lift heavy objects, capacitors supply instantaneous power to actuators, preventing excessive power from flowing directly from the battery to the joints, thereby controlling current spikes across the entire circuit. Sudden high current draw to a motor causes exponential heat generation due to resistance in wiring and circuits, placing severe strain on cooling systems. By delivering on-demand power locally, capacitors act as a first line of thermal defense that fundamentally suppresses the system's total electrical heat generation.
- **MLCC adoption expanding amid shift in power devices:** Replacing the motor driver IC for actuators with gallium nitride (GaN) power devices creates a cascade of improvements: the inverter runs cooler, enabling smaller capacitors, which frees up space in the joint and simplifies thermal design. MLCCs benefit from this structural transition.
- **Potential in robotics sales:** Samwha Capacitor's DC-link products—which it supplies for EVs and hybrid vehicles—can be adapted for robotic battery packs, while its MLCCs are applicable to actuators. Hyundai Motor Group integrated Samwha Capacitor into its value chain in 2013 when the parts maker developed DC-link technology. Approximately 30% of its MLCC sales come from EV and automotive electric/electronic (E/E) applications.

MLCCs and DC-link capacitors to drive earnings growth from 2Q

- **MLCC sales hit KRW38.7b in 1Q, up 24.2% y-y and accounting for 52% of total sales:** Driven by an ongoing boom in data-center construction investments, Samwha Capacitor has achieved strong growth in MLCC sales. Less than 5% of Samwha Capacitor's revenue comes from supplying MLCCs to data centers. However, the company is actively supplying MLCCs to the power infrastructure and inverters supporting data center operations.

To operate reliably, AI data centers require robust power infrastructure—including high-voltage transformers, uninterruptible power supplies (UPS), power distribution units (PDU), and power supply units (PSU) for server racks. MLCCs play a vital role in these systems by stabilizing power flow and absorbing voltage spikes. Samwha Capacitor supplies MLCCs specifically for these power infrastructure components.

- **Tier-1 players to mark up prices in 2Q:** Murata and Samsung Electro-Mechanics have announced ASP hikes of 5-10% starting in 2Q26, citing supply constraints—for reference, demand currently exceeds available capacity by more than two-fold. Accordingly, Samwha Capacitor's MLCC stands to benefit from this broader pricing momentum.
- **2H capacity expansion at Yongin plant could boost output by 40-50%:** Samwha Capacitor's domestic MLCC production lines ran at 85% capacity last year and are now fully up and running. Its peak MLCC sales of KRW163b occurred in 2018, during the earlier cloud data center boom—just 15% larger than its 2025 sales. Its consolidated 2018 sales and operating profit hit KRW274b and KRW81b, respectively, for an operating margin of 29.6%. The stock price hit a record high of KRW109,500 at that time.

Today's AI-driven capex cycle is five times larger—projected at USD750b-USD1t between 2025 and 2026, compared to USD130b-USD1500b in 2015-2018. To meet demand, Samwha Capacitor invested KRW14.5b in 2025 to expand and modernize its Yongin plant. The ramp-up construction is nearing completion and the newly-added production capacity should begin to generate sales from 2H26.

- **Second wave of EV adoption drives growth in DC-link and MLCC sales:** DC-link capacitors stabilize voltage fluctuations during the inverter's DC-to-AC conversion process, absorbing current ripple and buffering sudden voltage spikes that could damage semiconductor components in the inverter. Hybrids require one DC-link unit per vehicle; EVs require two. Samwha Capacitor developed DC-link technology in 2013 and supplies DC-link capacitors to HMG and European automakers (the latter via global parts makers).
- HMC and Kia are expanding their hybrid lineups and building full EV lineups in response to growing demand for EVs in Korea and Europe. In Europe, supported by the reinstatement of EV subsidies, EV sales are growing by over 30% y-y.

2026 guidance: The company targets 2026 sales growth of 5-10% y-y and operating profit growth of 40% y-y, led by higher MLCC utilization rates and ASP hikes.

- **Sales can exceed KRW300b:** FnGuide consensus has revenue of KRW331.5b (up 2.6% y-y), operating profit of KRW21b (up 62.7% y-y), and an operating margin of 6.33%. The stock is trading at 65x consensus P/E.
- **Valuation context:** During the 2015-2018 cloud/data center boom, MLCC peers traded at P/E of 20x-45x.
- **Corporate governance & financial structure:** Shareholder ownership consists of major shareholder (Chairman Oh, Young-ju and affiliates) 19.54%, Korea JCC 6.37%, and Samhwa Electric 2.24%. Circular ownership structure exists within the Samhwa Capacitor Group (capacitor, electric, electronics subsidiaries). Debt-to-equity ratio stood at 21.7% as of end-2025, and the company has transitioned to net cash position since 2018. In 2025, operating cash flow hit KRW26b, with capex of KRW17b (pointing to sustainable, self-funded investment model). R&D took up 1.19% of sales (according to annual report).
- **Dividend policy:** The company set its 2025 DPS at KRW500, for a dividend payout ratio of 41.5%. As it meets criteria for high-dividend stock status, its shareholders are eligible for separate taxation of dividend income under Korean tax law.

Role of capacitors in robotics thermal management

Component	Type	Thermal management role	Supply chain relevance
Main DC bus	Film or high-capacity electrolytic	Absorbs regenerative energy surges to prevent battery overcharge/overheating; reduces inverter heat by suppressing voltage spikes	Samsung Condenser DC-link; high voltage/temperature tolerance is critical
Joint driver DC link	MLCC (ceramic)	Filters high-frequency ripple current from GaN switching; improves inverter efficiency and lowers system heat	Samsung Electro-Mechanics, TDK, Murata, Samsung Condenser; trend shifting from electrolytic to ceramic for GaN systems
AI computing board	Polymer tantalum + MLCC	Delivers instant current to CPU/GPU; suppresses power noise to prevent thermal miscalculation	Low-ESL, low-ESR high-capacity MLCCs

Source: Media, Samsung Securities

Humanoid Robot: Estimated MLCC count

Category	Components	Number of MLCC (units)	Rationale
Joint actuator drivers	Motor driver boards 50+ units* x 30-80 MLCCs per board	1,500-4,000	Composition of industrial-grade small servo driver boards
AI compute board	FSD/Thor-class inference boards with multiple low-ESL, high-capacity decoupling capacitors	500-1,500	AI server boards contain up to 2.5x more MLCCs than general-purpose server boards (Samsung Electro-Mechanics)
Sensors & Communication	Camera modules, IMUs, force/torque sensors, wireless modules	100-300	
Power & Battery	BMS, DC-DC converters, power distribution (1-2 DC-link film capacitors separate)	100-300	
Total		Approximately 3,000-6,000	

Note: * 50+ units include 28 for body, 25 for hands/forearms, based on Optimus

Source: Media, Samsung Electro-Mechanics, Samsung Securities estimates

MLCC population by device type

Category	Smartphone	Humanoid Robot	Electric Vehicle
MLCC population	~1,000 units	~3,000 - 6,000 units (Samsung estimate)	18,000-20,000 units
Device weight	~0.2 kg	60-90 kg	~2,000 kg
MLCC density per kg (IT devices)	~50-80 units/kg	~10 units/kg	-
Required specifications (Mix)	General IT-grade	Automotive-grade high-reliability + high-capacity, low-ESL (higher ASP)	Automotive-grade high-reliability

Sources: Media reports, Samsung Electro-Mechanics, Samsung Securities

Samwha Capacitor: Product lineup



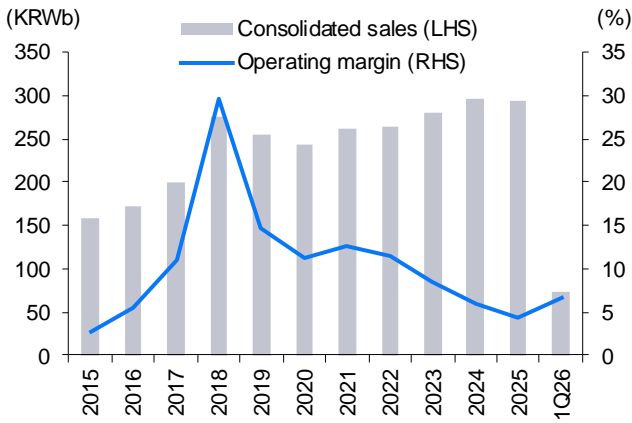
Source: Company data, Samsung Securities

Samwha Capacitor: 1Q review

(KRWm)	1Q25	Sales portion (%)	1Q26	Sales portion (%)	Chg (% y-y)
MLCC	31,221	43	38,771	53	24.2
FC	9,310	13	7,851	11	-15.7
DC-link	14,446	20	14,335	20	-0.8
DCC	7,179	10	5,705	8	-20.5
Other	10,270	14	6,191	8	-39.7
Revenue	72,426	100	72,853	100	0.6
Operating profit	4,814		4,696		-2.5
Operating margin (%)	6.6		6.4		-0.2%pts y-y

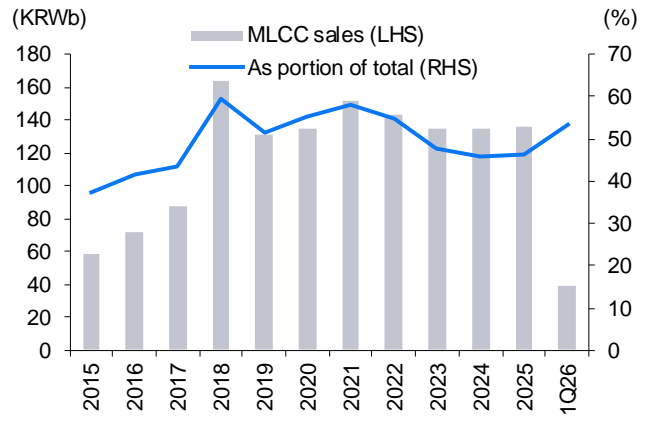
Source: Company data, Samsung Securities

Samwha Capacitor: Revenue and operating margin



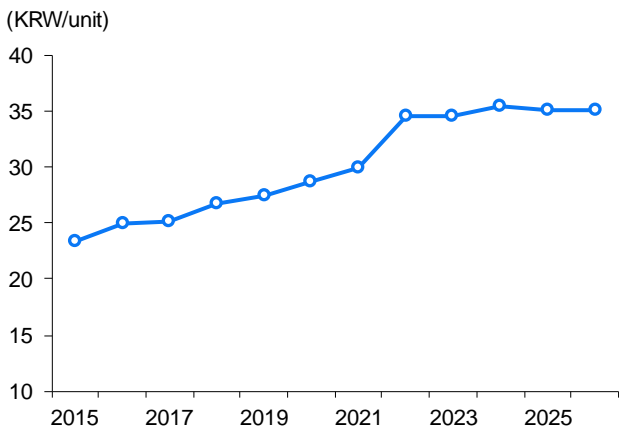
Source: Company data, Samsung Securities

Samwha Capacitor: MLCC sales



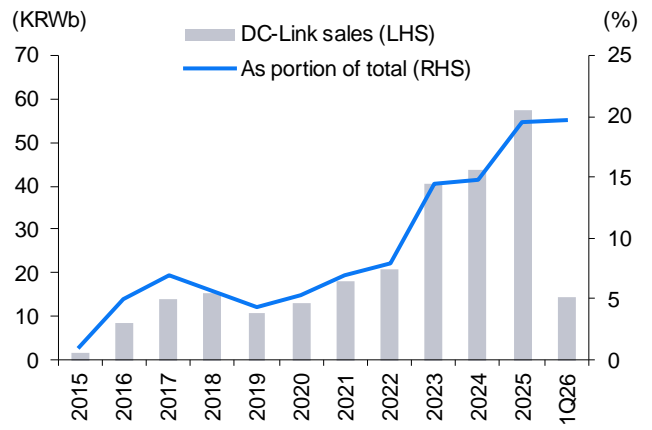
Source: Company data, Samsung Securities

Samwha Capacitor: Ceramic products' ASP



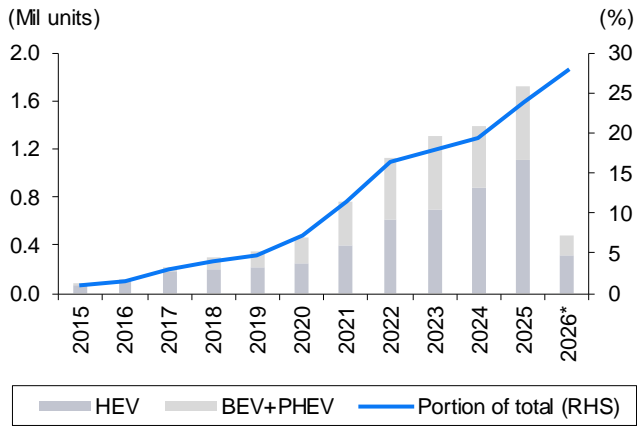
Source: Company data, Samsung Securities

Samwha Capacitor: DC-link sales



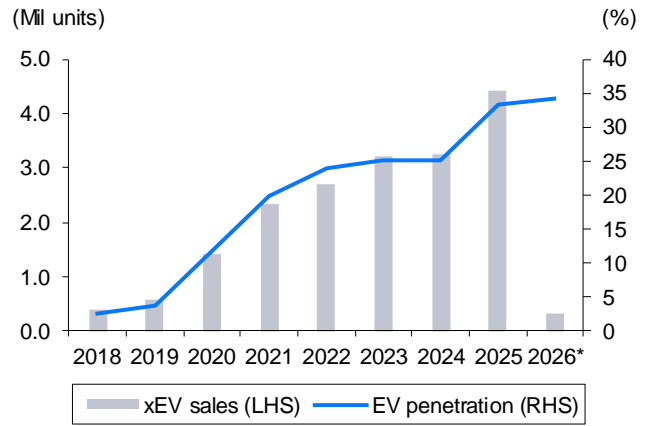
Source: Company data, Samsung Securities

HMC/Kia: HEV and EV (BEV+PHEV) sales volumes



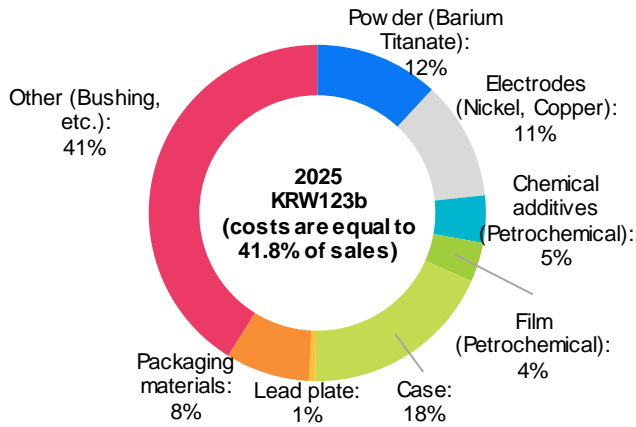
Note: *As of 1Q26
Source: Company data, Samsung Securities

Europe: EV sales volume



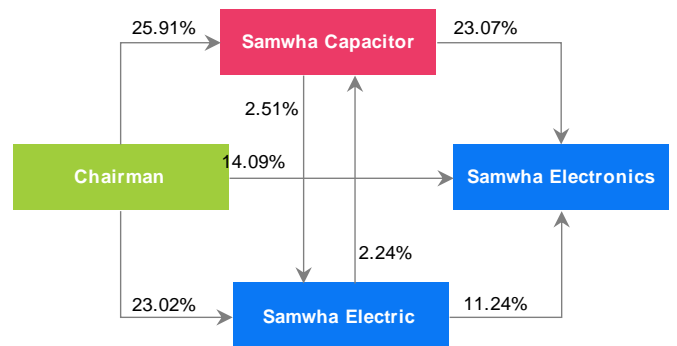
Note: *As of 1Q26
Source: ACEA, Samsung Securities

HMC/Kia: Breakdown of material costs



Source: Company data, Samsung Securities

Samwha Capacitor: Governance structure



Source: Company data, Samsung Securities

Income statement

Year-end Dec 31	2021	2022	2023	2024	2025
Sales	262	263	281	295	294
Cost of goods sold	203	206	229	248	250
Gross profit	59	58	52	47	44
Gross margin (%)	22.4	21.9	18.6	16.0	15.0
SG&A expenses	26	27	28	29	31
Operating profit	33	31	24	18	13
Operating margin (%)	12.7	11.6	8.4	6.0	4.4
Non-operating Gains(Losses)	3	3	2	9	2
Financial Profit	4	9	7	12	8
Financial Costs	3	7	6	4	7
Gains(Losses) in Equity Method	0	0	0	0	(0)
Other	2	0	1	1	1
Pre-tax profit	36	33	26	27	15
Taxes	8	4	5	5	2
Effective tax rate (%)	21.5	11.9	19.1	18.2	13.4
Profit from continuing operations	29	29	21	22	13
Profit from discontinued operations	0	0	0	0	0
Net profit	29	29	21	22	13
Net margin (%)	10.9	11.1	7.5	7.5	4.3
Net profit (Controlling Interests)	28	29	21	22	13
Net profit (Non-controlling Interests)	0	0	0	0	0
EBITDA	50	50	45	36	30
EBITDA margin (%)	19.2	18.9	16.1	12.3	10.3
EPS(parent) (KRW)	2,735	2,803	2,002	2,100	1,206
EPS(consolidated) (KRW)	2,753	2,822	2,013	2,120	1,213
Adjusted EPS (KRW)*	2,735	2,803	2,002	2,100	1,206

Cash flow statement

Year-end Dec 31	2021	2022	2023	2024	2025
Cash flow from operations	36	53	34	39	26
Net profit	29	29	21	22	13
Non-Cash Profit and Expense	29	32	28	21	20
Depreciation	17	19	21	18	17
Amortization	0	0	0	0	0
Others	11	13	7	3	3
Changes in A/L from Operating Activities	(18)	(2)	(8)	(3)	(4)
Cash flow from investments	(23)	(29)	(48)	(36)	(13)
Change in Tangible Assets	(19)	(24)	(25)	(11)	(17)
Change in Financial Assets	(4)	(3)	(23)	(25)	9
Other	(0)	(2)	(0)	0	(5)
Cash flow from financing	(4)	(11)	(8)	(10)	(3)
Change in debt	(2)	(5)	(2)	(5)	(1)
Change in equity	n/a	n/a	n/a	n/a	n/a
Dividends	(3)	(5)	(5)	(5)	(5)
Other	n/a	n/a	n/a	n/a	n/a
Change in cash	8	13	(20)	(5)	11
Cash at beginning of year	36	44	57	37	32
Cash at end of year	44	57	37	32	42
Gross cash flow	57	61	49	43	33
Free cash flow	16	29	9	28	9

Note: *Excluding one-off items

**Fully diluted, excluding one-off items

***From companies subject to equity-method valuation

Source: Company data, Samsung Securities estimates

Balance sheet

Year-end Dec 31	2021	2022	2023	2024	2025
Current assets	148	162	177	206	214
Cash & equivalents	44	57	37	32	42
Accounts receivable	51	54	61	70	67
Inventories	40	34	37	36	43
Other current assets	12	17	42	69	62
Fixed assets	121	125	131	122	126
Investment assets	19	15	22	21	25
Tangible assets	94	98	100	94	96
Intangible assets	1	1	1	1	1
Other long-term assets	8	12	8	7	4
Total assets	269	287	308	328	340
Current liabilities	53	54	55	54	53
Accounts payable	24	26	32	34	34
Short-term debt	11	6	4	0	0
Other current liabilities	17	21	19	20	19
Long-term liabilities	14	8	8	7	7
Bond & long-term debt	0	0	0	0	0
Other long-term liabilities	14	8	8	7	7
Total liabilities	66	62	63	61	61
Owners of parent equity	202	224	244	265	278
Capital stock	10	10	10	10	10
Capital surplus	5	5	5	5	7
Retained earnings	177	205	219	236	243
Other	10	4	10	14	17
Non-controlling interests equity	1	1	2	2	2
Total equity	203	225	245	267	280
Net debt	(37)	(58)	(62)	(87)	(90)

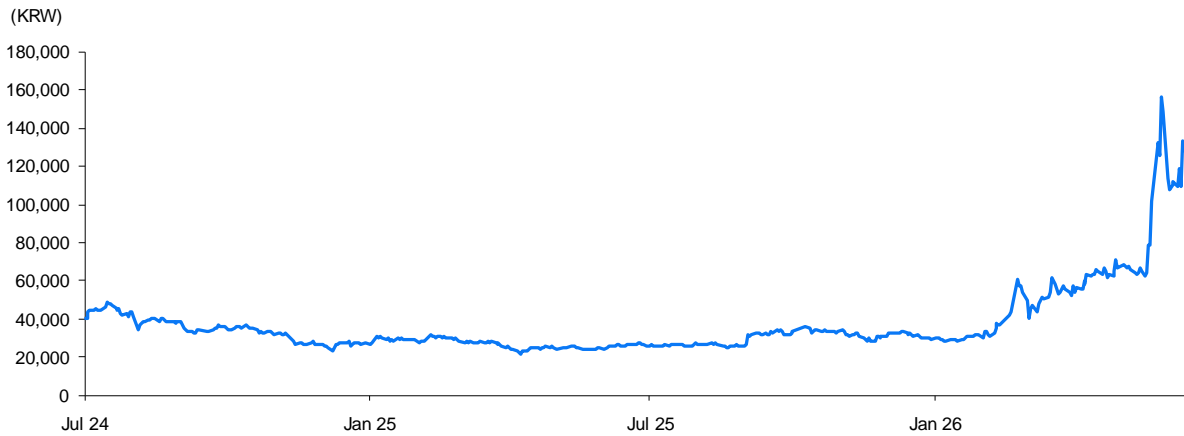
Financial ratios

Year-end Dec 31	2021	2022	2023	2024	2025
Growth (%)					
Sales	8.1	0.5	6.6	5.2	(0.3)
Operating profit	22.4	(8.0)	(22.4)	(24.7)	(27.9)
Net profit	22.0	2.5	(28.7)	5.3	(42.8)
Adjusted EPS**	21.9	2.5	(28.6)	4.9	(42.6)
Per share data (KRW)					
EPS(parent)	2,735	2,803	2,002	2,100	1,206
EPS(consolidated)	2,753	2,822	2,013	2,120	1,213
Adjusted EPS **	2,735	2,803	2,002	2,100	1,206
BPS	19,654	21,828	23,733	25,847	27,050
DPS (common)	n/a	n/a	n/a	n/a	n/a
Valuations (x)					
P/E***	n/a	n/a	n/a	n/a	n/a
P/B***	n/a	n/a	n/a	n/a	n/a
EV/EBITDA	(0.7)	(1.1)	(1.3)	(2.3)	(2.9)
Ratios					
ROE (%)	15.1	13.7	8.9	8.6	4.6
ROA (%)	11.4	10.5	7.0	6.9	3.8
ROIC (%)	17.4	17.2	11.9	8.9	6.7
Payout ratio (%)	n/a	n/a	n/a	n/a	n/a
Dividend yield (Common, %)	n/a	n/a	n/a	n/a	n/a
Net debt to equity (%)	(18.1)	(25.9)	(25.3)	(32.6)	(32.1)
Interest coverage (x)	69.1	66.2	45.1	67.5	63.0

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Target price changes in past two years



Rating changes over past two years (adjusted share prices)

Date	2026/6/17
Recommendation	Not Rated
Target price (KRW)	n/a
Gap* (average) (max or min)**	

Note: * [(average, maximum, or minimum share price over duration of target price minus target price) / target price] x 100%
 ** Maximum/minimum share price if new target is higher/lower than market close on the business day prior to target price change

Samsung Securities uses the following investment ratings*

Company		Industry	
BUY	Expected to increase in value by 15% or more within 12 months and is highly attractive within sector	OVERWEIGHT	Expected to outperform market by 5% or more within 12 months
HOLD	Expected to increase/decrease in value by less than 15% within 12 months	NEUTRAL	Expected to outperform/underperform market by less than 5% within 12 months
SELL	Expected to decrease in value by 15% or more within 12 months	UNDERWEIGHT	Expected to underperform market by 5% or more within 12 months

* Note: Effective Jul 27, 2023, BUY, HOLD, and SELL criteria are based on expectations of share-price moves of 15% or more within 12 months

Percentage of ratings in 12 months prior to 2026.03.31

BUY(85.2%)-HOLD(14.8%)-SELL(0%)

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