

Illustrative render generated from published specifications

18.4 × 65 mm
48 g

Samsung

INR18650-29E



Live page & updates

Samsung · released 2012

18650

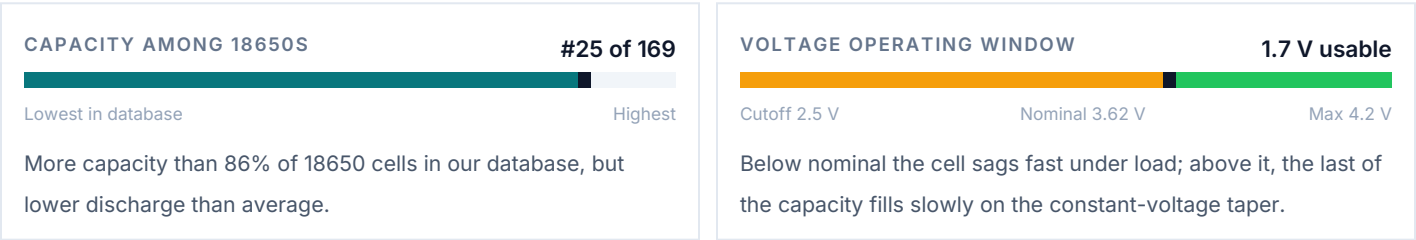
NMC

MOOCH-TESTED · 5 A

2,900 mAh CAPACITY	5 A MOOCH CONTINUOUS	3.62 V NOMINAL · 2.5 – 4.2 V	10.5 Wh ENERGY · 218.75 WH/KG
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REFERENCE ONLY — NOT AN OFFICIAL DOCUMENT

This information is gathered from multiple sources, including manufacturer datasheets, independent third-party testing, and community contributions. Cell specifications vary between production batches and change over time, and no figure here is guaranteed to be correct or current. **Always consult the manufacturer's spec sheet directly.** Use this sheet for reference only — never as the sole basis for a safety-critical decision about charging, discharging, or assembling cells. The cell image is an illustrative render generated from published specifications, not a photograph.



APPLICATION SUITABILITY

Rule-of-thumb ratings from this cell's capacity and continuous discharge. Check your own load before committing.

Powerwalls	High capacity means more stored energy per cell. Fewer cells needed for a given kWh target.
Ebike packs	Marginal. Check your motor's peak draw first. You might get voltage sag under load.
Car audio	Not enough discharge for car audio amplifiers. You need at least 15-20A continuous for most setups.
High-drain vaping	Below the 25A Mooch CDR threshold that high-drain vaping needs. Use a higher-drain cell.
Flashlights	Decent runtime. Works well for most flashlights.
Power tools	Not enough discharge or capacity for power tool use.

IDENTITY

Manufacturer	Samsung
Model	INR18650-29E
Format	18650
Chemistry	NMC
Year released	2012
Wrap colour	Purple (Light)
Insulator	White
Terminal	Flat top
Protection	Unprotected

OPERATING TEMPERATURE

Charging	0°C to 45°C
Discharging	-20°C to 60°C

ENERGY & POWER DENSITY

Energy	10.5 Wh
Specific energy	218.75 Wh/kg
Volumetric density	607.51 Wh/L
Power density (mass)	377 W/kg
Power density (volume)	1,047 W/L
Capacity ranking	#25 of 169 18650s

C-RATE CONVERSION · 2,900 MAH

C-RATE	CURRENT	THEORETICAL RUNTIME
0.2C	0.58 A	5h 00m
0.5C	1.45 A	2h 00m
1C	2.9 A	1h 00m

Highlighted row is closest to the rated 5 A continuous discharge.

PHYSICAL

Diameter	18.4 mm
Length	65 mm
Weight	48 g

ELECTRICAL

Rated capacity	2,900 mAh
Nominal voltage	3.62 V
Max charge voltage	4.2 V
Discharge cutoff	2.5 V
Energy	10.5 Wh
Internal resistance	35 mΩ
Max continuous discharge	5 A (mooch)
Discharge C-rate	1.7C
Standard charge current	1,375 mA
Typical charge time	2.1 h
Standard discharge	550mA
Cycle life	500 cycles

CHARGING

RATE	CURRENT	ESTIMATED TIME TO FULL
Standard	1,375 mA	~2h 07m
0.5C	1,450 mA	~2h 00m
1C	2,900 mA	~1h 00m

Constant-current phase only. Real charge time runs longer because of the constant-voltage taper at the end.

SERIES PACK CONFIGURATIONS

Voltagess calculated from this cell's own nominal and maximum charge voltage. The 3P columns show one common parallel count as a worked example — scale the parallel group to the capacity you need.

SERIES	NOMINAL	FULLY CHARGED	CELLS AT 3P	CAPACITY	ENERGY
3S	10.9 V	12.6 V	9	8.7 Ah	94 Wh
7S	25.3 V	29.4 V	21	8.7 Ah	220 Wh
10S	36.2 V	42 V	30	8.7 Ah	315 Wh
13S	47.1 V	54.6 V	39	8.7 Ah	409 Wh
14S	50.7 V	58.8 V	42	8.7 Ah	441 Wh

EXAMPLE PACKS

7S2P 24V ebike / small pack 14 cells · 25.3 V 5,800 mAh · 147 Wh 10 A max · ≈0.67 kg cells	13S4P 48V ebike standard 52 cells · 47.1 V 11,600 mAh · 546 Wh 20 A max · ≈2.5 kg cells	16S4P DIY powerwall 64 cells · 57.9 V 11,600 mAh · 672 Wh 20 A max · ≈3.07 kg cells	4S6P Power tool replacement 24 cells · 14.5 V 17,400 mAh · 252 Wh 30 A max · ≈1.15 kg cells
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SIMILAR CELLS

Same format and chemistry, within ± 500 mAh.

CELL	MAH	CONTINUOUS	WH	WEIGHT	WH/KG
Samsung INR18650-29E (this cell)	2,900	5 A	10.5	48 g	219
LG LGABF1L1865	3,350	4.9 A	12.2	49 g	248
LG LGGBF1L1865	3,350	4.9 A	12.2	—	—
Panasonic NCR18650B	3,350	4 A	12.1	47.5 g	254
LG LGABE11865	3,200	9 A	12	49 g	245
LG LGEBE11865	3,200	4.9 A	12	—	—

HANDLING & SAFETY

- Never charge above 4.2V or discharge below 2.5V.
- Store cells at around 3.6-3.8V (roughly 40-60% charge) for long-term storage.
- Don't mix cells with different capacities, chemistries, or states of charge in a pack.
- Inspect wraps before use. A torn wrap can cause a short circuit.
- Always use a BMS or balance charger appropriate for your pack configuration.
- Keep cells away from metal objects, keys, and coins. A short across the terminals can cause fire.

SOURCES & FURTHER READING

Cell Savors page	cellsaviors.com/cell-database/samsung-inr18650-29e
Manufacturer datasheet	https://www.tme.eu/Document/bdf3bec3bd9898cb175128fb3dc18769/A...
Independent test (Mooch)	https://www.e-cigarette-forum.com/threads/bench-test-results-d...
Full cell database	cellsaviors.com/cell-database