

Illustrative render generated from published specifications

18.35 × 64.85 mm
47 g

BAK N18650CK

BAK · released 2018

18650

NMC

MOOCH-TESTED · 6 A



Live page & updates

3,050 mAh CAPACITY	6 A MOOCH CONTINUOUS	3.6 V NOMINAL · 2.5 – 4.2 V	10.98 Wh ENERGY · 233.62 WH/KG
--	--	---	--

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.

CAPACITY AMONG 18650S #34 of 279 Lowest in databaseHighest More capacity than 88% of 18650 cells in our database, but lower discharge than average.	VOLTAGE OPERATING WINDOW 1.7 V usable Cutoff 2.5 VNominal 3.6 VMax 4.2 V Below nominal the cell sags fast under load; above it, the last of the capacity fills slowly on the constant-voltage taper.
--	---

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	High capacity means long runtime. Great for everyday carry and extended use.
Power tools	Not enough discharge or capacity for power tool use.

IDENTITY

Manufacturer	BAK
Model	N18650CK
Format	18650
Chemistry	NMC
Year released	2018
Terminal	Flat top
Protection	Unprotected

OPERATING TEMPERATURE

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

ENERGY & POWER DENSITY

Energy	10.98 Wh
Specific energy	233.62 Wh/kg
Volumetric density	640.22 Wh/L
Power density (mass)	460 W/kg
Power density (volume)	1,259 W/L
Capacity ranking	#34 of 279 18650s

PHYSICAL

Diameter	18.35 mm
Length	64.85 mm
Weight	47 g

ELECTRICAL

Rated capacity	3,050 mAh
Nominal voltage	3.6 V
Max charge voltage	4.2 V
Discharge cutoff	2.5 V
Energy	10.98 Wh
Internal resistance	35 mΩ
Max continuous discharge	6 A (mooch)
Discharge C-rate	2C
Standard charge current	1,525 mA
Typical charge time	2 h
Standard discharge	610mA
Cycle life	500 cycles

C-RATE CONVERSION · 3,050 MAH

C-RATE	CURRENT	THEORETICAL RUNTIME
0.2C	0.61 A	5h 00m
0.5C	1.53 A	2h 00m
1C	3.05 A	1h 00m
2C	6.1 A	30m

Highlighted row is closest to the rated 6 A continuous discharge.

CHARGING

RATE	CURRENT	ESTIMATED TIME TO FULL
------	---------	------------------------

0.5C	1,525 mA	~2h 00m
1C	3,050 mA	~1h 00m

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

SERIES PACK CONFIGURATIONS

Voltages 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	10.8 V	12.6 V	9	9.1 Ah	99 Wh
7S	25.2 V	29.4 V	21	9.1 Ah	231 Wh
10S	36 V	42 V	30	9.1 Ah	329 Wh
13S	46.8 V	54.6 V	39	9.1 Ah	428 Wh
14S	50.4 V	58.8 V	42	9.1 Ah	461 Wh

EXAMPLE PACKS

7S2P 24V ebike / small pack 14 cells · 25.2 V 6,100 mAh · 154 Wh 12 A max · ≈0.66 kg cells	13S4P 48V ebike standard 52 cells · 46.8 V 12,200 mAh · 571 Wh 24 A max · ≈2.44 kg cells	16S4P DIY powerwall 64 cells · 57.6 V 12,200 mAh · 703 Wh 24 A max · ≈3.01 kg cells	4S6P Power tool replacement 24 cells · 14.4 V 18,300 mAh · 264 Wh 36 A max · ≈1.13 kg cells
---	---	--	--

SIMILAR CELLS

Same format and chemistry, within ±500 mAh.

CELL	MAH	CONTINUOUS	WH	WEIGHT	WH/KG
BAK N18650CK (this cell)	3,050	6 A	10.98	47 g	234
LG LGEBMJ11865	3,500	10 A	12.7	49 g	260
LG LGDBMJ11865	3,500	10 A	12.7	49 g	259
AWT AWT 35A 3500mAh	3,500	35 A	12.6	50 g	252
Epoch PROTECTED	3,500	8 A	12.6	49.1 g	257
EVE INR18650-35V	3,500	10 A	12.6	47 g	268

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 Saviors page	cellsaviors.com/cell-database/bak-n18650ck
Manufacturer datasheet	https://eledelitia.com/wp-content/uploads/2021/07/1_N18650CK-....
Independent test (Mooch)	https://www.e-cigarette-forum.com/threads/bench-test-results-b...
Full cell database	cellsaviors.com/cell-database