



Sony

18650NCM

18.2 × 65 mm
45 g

Sony US18650NC1



Live page & updates

2,750 mAh CAPACITY	8 A RATED CONTINUOUS	3.6 V NOMINAL · 2.5 – 4.2 V	9.9 Wh ENERGY · 220 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.

CAPACITY AMONG 18650S

#90 of 279

Lowest in databaseHighest

A mid-range 18650 cell. Solid for builds that don't need extreme capacity or discharge.

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	Decent runtime. Works well for most flashlights.
● Power tools	Not enough discharge or capacity for power tool use.

IDENTITY

Manufacturer	Sony
Model	US18650NC1
Format	18650
Chemistry	NCM
Wrap colour	Green
Insulator	Black
Terminal	Flat top
Protection	Unprotected

OPERATING TEMPERATURE

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

ENERGY & POWER DENSITY

Energy	9.9 Wh
Specific energy	220 Wh/kg
Volumetric density	585.45 Wh/L
Power density (mass)	640 W/kg
Power density (volume)	1,703 W/L
Capacity ranking	#90 of 279 18650s

C-RATE CONVERSION · 2,750 MAH

C-RATE	CURRENT	THEORETICAL RUNTIME
0.2C	0.55 A	5h 00m
0.5C	1.38 A	2h 00m
1C	2.75 A	1h 00m
2C	5.5 A	30m
3C	8.25 A	20m

Highlighted row is closest to the rated 8 A continuous discharge.

PHYSICAL

Diameter	18.2 mm
Length	65 mm
Weight	45 g

ELECTRICAL

Rated capacity	2,750 mAh
Nominal voltage	3.6 V
Max charge voltage	4.2 V
Discharge cutoff	2.5 V
Energy	9.9 Wh
Internal resistance	24 mΩ
Max continuous discharge	8 A (datasheet)
Discharge C-rate	2.9C
Standard charge current	725 mA
Typical charge time	3.8 h
Standard discharge	725mA
Cycle life	500 cycles

CHARGING

RATE	CURRENT	ESTIMATED TIME TO FULL
Standard	725 mA	~3h 48m
0.5C	1,375 mA	~2h 00m
1C	2,750 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	10.8 V	12.6 V	9	8.3 Ah	89 Wh
7S	25.2 V	29.4 V	21	8.3 Ah	208 Wh
10S	36 V	42 V	30	8.3 Ah	297 Wh
13S	46.8 V	54.6 V	39	8.3 Ah	386 Wh
14S	50.4 V	58.8 V	42	8.3 Ah	416 Wh

EXAMPLE PACKS

7S2P 24V ebike / small pack 14 cells · 25.2 V 5,500 mAh · 139 Wh 16 A max · ≈0.63 kg cells	13S4P 48V ebike standard 52 cells · 46.8 V 11,000 mAh · 515 Wh 32 A max · ≈2.34 kg cells	16S4P DIY powerwall 64 cells · 57.6 V 11,000 mAh · 634 Wh 32 A max · ≈2.88 kg cells	4S6P Power tool replacement 24 cells · 14.4 V 16,500 mAh · 238 Wh 48 A max · ≈1.08 kg cells
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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/sony-us18650nc1
Manufacturer datasheet	https://www.megacellmonitor.com/pdf/vendor_specs/SPEC_SONY_US1...
Full cell database	cellsaviors.com/cell-database