

Illustrative render generated from published specifications

18.3 × 64.7 mm
25 g

Panasonic
CGR18650H



Live page & updates

Panasonic

18650 NMC

1,500 mAh CAPACITY	— A RATED CONTINUOUS	3.7 V NOMINAL · 3 – 4.2 V	5.55 Wh ENERGY · 222 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.

CAPACITY AMONG 18650S

#149 of 169

Lowest in database

Highest

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

VOLTAGE OPERATING WINDOW

1.2 V usable

Cutoff 3 V

Nominal 3.7 V

Max 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.

IDENTITY

Manufacturer	Panasonic
Model	CGR18650H
Format	18650
Chemistry	NMC
Wrap colour	■ Purple
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	5.55 Wh
Specific energy	222 Wh/kg
Volumetric density	326.13 Wh/L
Capacity ranking	#149 of 169 18650s

PHYSICAL

Diameter	18.3 mm
Length	64.7 mm
Weight	25 g

ELECTRICAL

Rated capacity	1,500 mAh
Nominal voltage	3.7 V
Max charge voltage	4.2 V
Discharge cutoff	3 V
Energy	5.55 Wh
Standard charge current	980 mA
Typical charge time	1.5 h
Standard discharge	280mA

CHARGING

RATE	CURRENT	ESTIMATED TIME TO FULL
0.5C	750 mA	~2h 00m
Standard	980 mA	~1h 32m
1C	1,500 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	11.1 V	12.6 V	9	4.5 Ah	50 Wh

7S	25.9 V	29.4 V	21	4.5 Ah	117 Wh
10S	37 V	42 V	30	4.5 Ah	167 Wh
13S	48.1 V	54.6 V	39	4.5 Ah	216 Wh
14S	51.8 V	58.8 V	42	4.5 Ah	233 Wh

EXAMPLE PACKS

7S2P

24V ebike / small pack

14 cells · 25.9 V

3,000 mAh · 78 Wh

· ≈0.35 kg cells

13S4P

48V ebike standard

52 cells · 48.1 V

6,000 mAh · 289 Wh

· ≈1.3 kg cells

16S4P

DIY powerwall

64 cells · 59.2 V

6,000 mAh · 355 Wh

· ≈1.6 kg cells

4S6P

Power tool replacement

24 cells · 14.8 V

9,000 mAh · 133 Wh

· ≈0.6 kg cells

SIMILAR CELLS

Same format and chemistry, within ±500 mAh.

CELL	MAH	CONTINUOUS	WH	WEIGHT	WH/KG
Panasonic CGR18650H (this cell)	1,500	—	5.55	25 g	222
ATL INR18650	2,000	6 A	7.4	45 g	164
Cham CMICR18650F8	2,000	5.1 A	7.4	45 g	164
Great Power ICR 18650	2,000	4 A	7.4	44 g	168
HYB ICR18650NM	2,000	—	7.4	—	—
Samsung ICR18650-20	2,000	4 A	7.4	—	—

HANDLING & SAFETY

- Never charge above 4.2V or discharge below 3V.
- 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/panasonic-cgr18650h

Manufacturer datasheet

https://www.megacellmonitor.com/pdf/vendor_specs/SPEC_PANASONI...

Full cell database

cellsaviors.com/cell-database