Illustrative render generated from published specifications

18.3 × 65 mm
46 g

Vapcell R25

Vapcell · released 2021

18650 NMC

MOOCH-TESTED · 20 A

Live page & updates

2,500 mAh	20 A	3.6 V	9 Wh
CAPACITY	MOOCH CONTINUOUS	NOMINAL · 2.5 – 4.2 V	ENERGY · 195.65 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 — #132 of 279

Lowest in database — Highest

Higher discharge than 77% of 18650 cells in our database. Great for high-drain builds.

VOLTAGE OPERATING WINDOW — 1.7 V usable

Cutoff 2.5 V — Nominal 3.6 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.

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	Good balance of capacity for range and discharge for hills. Works well in most ebike packs.
Car audio	Enough discharge to handle amplifier bursts without voltage sag.
High-drain vaping	Usable in regulated mods at moderate wattage. Not recommended for mechanical mods.
Flashlights	Decent runtime. Works well for most flashlights.
Power tools	Sufficient discharge and capacity for most power tool packs.

IDENTITY

Manufacturer	**Vapcell**
Model	**R25**
Format	**18650**
Chemistry	**NMC**
Year released	**2021**
Wrap colour	**Green**
Terminal	**Flat top**
Protection	**Unprotected**

OPERATING TEMPERATURE

Charging	**0°C to 45°C**
Discharging	**-20°C to 75°C**

ENERGY & POWER DENSITY

Energy	**9 Wh**
Specific energy	**195.65 Wh/kg**
Volumetric density	**526.43 Wh/L**
Power density (mass)	**1,565 W/kg**
Power density (volume)	**4,211 W/L**
Capacity ranking	**#132 of 279 18650s**

PHYSICAL

Diameter	**18.3 mm**
Length	**65 mm**
Weight	**46 g**

ELECTRICAL

Rated capacity	**2,500 mAh**
Nominal voltage	**3.6 V**
Max charge voltage	**4.2 V**
Discharge cutoff	**2.5 V**
Energy	**9 Wh**
Internal resistance	**15 mΩ**
Max continuous discharge	**20 A (mooch)**
Discharge C-rate	**8C**
Standard charge current	**2,000 mA**
Typical charge time	**1.3 h**
Standard discharge	**500mA**

C-RATE CONVERSION · 2,500 MAH

C-RATE	CURRENT	THEORETICAL RUNTIME
0.2C	0.5 A	5h 00m
0.5C	1.25 A	2h 00m
1C	2.5 A	1h 00m
2C	5 A	30m
3C	7.5 A	20m
5C	12.5 A	12m

8C	**20 A**	**7m 30s**

Highlighted row is closest to the rated 20 A continuous discharge.

CHARGING

RATE	CURRENT	ESTIMATED TIME TO FULL
0.5C	1,250 mA	~2h 00m
Standard	2,000 mA	~1h 15m
1C	2,500 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	10.8 V	12.6 V	9	7.5 Ah	81 Wh
7S	25.2 V	29.4 V	21	7.5 Ah	189 Wh
10S	36 V	42 V	30	7.5 Ah	270 Wh
13S	46.8 V	54.6 V	39	7.5 Ah	351 Wh
14S	50.4 V	58.8 V	42	7.5 Ah	378 Wh

EXAMPLE PACKS

7S2P
24V ebike / small pack

14 cells · 25.2 V

5,000 mAh · 126 Wh

40 A max · ≈0.64 kg cells

13S4P
48V ebike standard

52 cells · 46.8 V

10,000 mAh · 468 Wh

80 A max · ≈2.39 kg cells

16S4P
DIY powerwall

64 cells · 57.6 V

10,000 mAh · 576 Wh

80 A max · ≈2.94 kg cells

4S6P
Power tool replacement

24 cells · 14.4 V

15,000 mAh · 216 Wh

120 A max · ≈1.1 kg cells

SIMILAR CELLS

Same format and chemistry, within ±500 mAh.

CELL	MAH	CONTINUOUS	WH	WEIGHT	WH/KG
Vapcell R25 (this cell)	**2,500**	**20 A**	**9**	**46 g**	**196**
LG LGABD11865	3,000	5.8 A	11.3	48.5 g	232
LG LGDBD11865	3,000	5.8 A	11.3	48.5 g	232
Samsung ICR18650-30B	2,950	5.9 A	11.2	48 g	232
Samsung ICR18650-30A	3,000	6 A	11.1	48 g	231
Ampace JP30P1	3,000	36 A	10.8	50 g	216

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/vapcell-r25
Manufacturer datasheet	https://www.vapcelltech.com/h-pd-74.html
Independent test (Mooch)	https://www.e-cigarette-forum.com/threads/bench-test-results-v...
Full cell database	cellsaviors.com/cell-database