

Illustrative render generated from published specifications

21.1 × 70.5 mm
68 g

Vapcell T39

Vapcell

21700 NMC

MOOCH-TESTED · 35 A



Live page & updates

3,900 mAh CAPACITY	35 A MOOCH CONTINUOUS	3.6 V NOMINAL · 2.5 – 4.2 V	14.04 Wh ENERGY · 206.47 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 21700S #63 of 72 Lowest in databaseHighest A mid-range 21700 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.
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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	Above the 25A Mooch CDR threshold. Suitable for regulated and mechanical mods.
Flashlights	High capacity means long runtime. Great for everyday carry and extended use.
Power tools	Sufficient discharge and capacity for most power tool packs.

IDENTITY		PHYSICAL	
Manufacturer	Vapcell	Diameter	21.1 mm
Model	T39	Length	70.5 mm
Format	21700	Weight	68 g
Chemistry	NMC	ELECTRICAL	
Wrap colour	 Red		
Terminal	Flat top		
Protection	Unprotected		
ENERGY & POWER DENSITY			
Energy	14.04 Wh	Energy	14.04 Wh
Specific energy	206.47 Wh/kg	Internal resistance	6 mΩ
Volumetric density	569.54 Wh/L	Max continuous discharge	35 A (mooch)
Power density (mass)	1,853 W/kg	Discharge C-rate	9C
Power density (volume)	5,111 W/L	Standard charge current	3,000 mA
Capacity ranking	#63 of 72 21700s	Typical charge time	1.3 h

C-RATE CONVERSION · 3,900 MAH

C-RATE	CURRENT	THEORETICAL RUNTIME
0.2C	0.78 A	5h 00m
0.5C	1.95 A	2h 00m
1C	3.9 A	1h 00m
2C	7.8 A	30m
3C	11.7 A	20m
5C	19.5 A	12m
8C	31.2 A	7m 30s

Highlighted row is closest to the rated 35 A continuous discharge.

CHARGING

RATE	CURRENT	ESTIMATED TIME TO FULL
0.5C	1,950 mA	~2h 00m

Standard	3,000 mA	~1h 18m
1C	3,900 mA	~1h 00m

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

SERIES PACK CONFIGURATIONS

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	11.7 Ah	126 Wh
7S	25.2 V	29.4 V	21	11.7 Ah	295 Wh
10S	36 V	42 V	30	11.7 Ah	421 Wh
13S	46.8 V	54.6 V	39	11.7 Ah	548 Wh
14S	50.4 V	58.8 V	42	11.7 Ah	590 Wh

EXAMPLE PACKS

7S2P 24V ebike / small pack 14 cells · 25.2 V 7,800 mAh · 197 Wh 70 A max · ≈0.95 kg cells	13S4P 48V ebike standard 52 cells · 46.8 V 15,600 mAh · 730 Wh 140 A max · ≈3.54 kg cells	16S4P DIY powerwall 64 cells · 57.6 V 15,600 mAh · 899 Wh 140 A max · ≈4.35 kg cells	4S6P Power tool replacement 24 cells · 14.4 V 23,400 mAh · 337 Wh 210 A max · ≈1.63 kg cells
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SIMILAR CELLS

Same format and chemistry, within ±500 mAh.

CELL	MAH	CONTINUOUS	WH	WEIGHT	WH/KG
Vapcell T39 (this cell)	3,900	35 A	14.04	68 g	206
Xtar XTAR 30A 4200mAh	4,200	30 A	15.1	70 g	216
Hohm Tech Hohm Run XL	4,007	30 A	14.4	—	—
Ampace JP40	4,000	60 A	14.4	69 g	209
Energig EC-2174HC	4,000	30 A	14.4	70 g	206
EVE INR21700-40P	4,000	35 A	14.4	70 g	206

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-t39
Manufacturer datasheet	https://www.vapcelltech.com/en/h-pd-187.html
Independent test (Mooch)	https://www.e-cigarette-forum.com/threads/bench-test-results-v...
Full cell database	cellsaviors.com/cell-database