

Illustrative render generated from published specifications

18.3 × 65 mm
48 g

Vapcell F38

Vapcell

18650 NMC

MOOCH-TESTED · 10 A



Live page & updates

3,800 mAh CAPACITY	10 A MOOCH CONTINUOUS	3.6 V NOMINAL · 2.5 – 4.2 V	13.68 Wh ENERGY · 285 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 #4 of 279 Lowest in databaseHighest More capacity than 99% of 18650 cells in our database. One of the higher-capacity options.	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	Might work for smaller setups. Check your amp's peak current draw.
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	May work for lighter-duty tools. Check your tool's current requirements.

IDENTITY		PHYSICAL	
Manufacturer	Vapcell	Diameter	18.3 mm
Model	F38	Length	65 mm
Format	18650	Weight	48 g
Chemistry	NMC	ELECTRICAL	
Wrap colour	Red		
Terminal	Flat top		
Protection	Unprotected		
OPERATING TEMPERATURE			
Charging	0°C to 45°C	Rated capacity	3,800 mAh
ENERGY & POWER DENSITY		Nominal voltage	3.6 V
		Max charge voltage	4.2 V
		Discharge cutoff	2.5 V
		Energy	13.68 Wh
		Internal resistance	17 mΩ
Energy	13.68 Wh	Max continuous discharge	10 A (mooch)
Specific energy	285 Wh/kg	Discharge C-rate	2.6C
Volumetric density	800.17 Wh/L	Standard charge current	1,500 mA
Power density (mass)	750 W/kg	Typical charge time	2.5 h
Power density (volume)	2,106 W/L		
Capacity ranking	#4 of 279 18650s		

C-RATE CONVERSION · 3,800 MAH

C-RATE	CURRENT	THEORETICAL RUNTIME
0.2C	0.76 A	5h 00m
0.5C	1.9 A	2h 00m
1C	3.8 A	1h 00m
2C	7.6 A	30m

Highlighted row is closest to the rated 10 A continuous discharge.

CHARGING

RATE	CURRENT	ESTIMATED TIME TO FULL
Standard	1,500 mA	~2h 32m

0.5C	1,900 mA	~2h 00m
1C	3,800 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	11.4 Ah	123 Wh
7S	25.2 V	29.4 V	21	11.4 Ah	287 Wh
10S	36 V	42 V	30	11.4 Ah	410 Wh
13S	46.8 V	54.6 V	39	11.4 Ah	534 Wh
14S	50.4 V	58.8 V	42	11.4 Ah	575 Wh

EXAMPLE PACKS

7S2P 24V ebike / small pack 14 cells · 25.2 V 7,600 mAh · 192 Wh 20 A max · ≈0.67 kg cells	13S4P 48V ebike standard 52 cells · 46.8 V 15,200 mAh · 711 Wh 40 A max · ≈2.5 kg cells	16S4P DIY powerwall 64 cells · 57.6 V 15,200 mAh · 876 Wh 40 A max · ≈3.07 kg cells	4S6P Power tool replacement 24 cells · 14.4 V 22,800 mAh · 328 Wh 60 A max · ≈1.15 kg cells
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SIMILAR CELLS

Same format and chemistry, within ±500 mAh.

CELL	MAH	CONTINUOUS	WH	WEIGHT	WH/KG
Vapcell F38 (this cell)	3,800	10 A	13.68	48 g	285
Vapcell N41	4,050	10 A	14.6	48 g	304
Amprius INR18650/40	4,000	12 A	14.4	48 g	300
Vapcell N40	4,000	10 A	14.4	48 g	300
Vapcell N36	3,650	8 A	13.1	48 g	274
LG LGEBMJ11865	3,500	10 A	12.7	49 g	260

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-f38
Manufacturer datasheet	https://www.vapcelltech.com/h-pd-191.html
Independent test (Mooch)	https://www.e-cigarette-forum.com/threads/bench-test-results-v...
Full cell database	cellsaviors.com/cell-database