

Illustrative render generated from published specifications

18.2 × 65.05 mm

AWT BLACK 50A

2600mAh



Live page & updates

AWT · released 2016

- 18650
- NMC
- MOOCH-TESTED · 50 A

2,600 mAh CAPACITY	50 A MOOCH CONTINUOUS	3.6 V NOMINAL · 2.5 – 4.2 V	9.36 Wh ENERGY
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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

#96 of 279

Lowest in databaseHighest

Higher discharge than 99% of 18650 cells in our database.

Great for high-drain builds.

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	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	Decent runtime. Works well for most flashlights.
Power tools	Sufficient discharge and capacity for most power tool packs.

IDENTITY

Manufacturer	AWT
Model	BLACK 50A 2600mAh
Format	18650
Chemistry	NMC
Year released	2016
Wrap colour	■ Black
Terminal	Flat top
Protection	Unprotected

OPERATING TEMPERATURE

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

ENERGY & POWER DENSITY

Energy	9.36 Wh
Volumetric density	553.09 Wh/L
Power density (volume)	10,636 W/L
Capacity ranking	#96 of 279 18650s

PHYSICAL

Diameter	18.2 mm
Length	65.05 mm

ELECTRICAL

Rated capacity	2,600 mAh
Nominal voltage	3.6 V
Max charge voltage	4.2 V
Discharge cutoff	2.5 V
Energy	9.36 Wh
Internal resistance	13 mΩ
Max continuous discharge	50 A (mooch)
Discharge C-rate	19.2C
Standard charge current	1,200 mA
Typical charge time	2.2 h
Standard discharge	520mA

C-RATE CONVERSION · 2,600 MAH

C-RATE	CURRENT	THEORETICAL RUNTIME
0.2C	0.52 A	5h 00m
0.5C	1.3 A	2h 00m
1C	2.6 A	1h 00m
2C	5.2 A	30m
3C	7.8 A	20m
5C	13 A	12m
8C	20.8 A	7m 30s
10C	26 A	6m

15C	39 A	4m
20C	52 A	3m

Highlighted row is closest to the rated 50 A continuous discharge.

CHARGING

RATE	CURRENT	ESTIMATED TIME TO FULL
Standard	1,200 mA	~2h 10m
0.5C	1,300 mA	~2h 00m
1C	2,600 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	7.8 Ah	84 Wh
7S	25.2 V	29.4 V	21	7.8 Ah	197 Wh
10S	36 V	42 V	30	7.8 Ah	281 Wh
13S	46.8 V	54.6 V	39	7.8 Ah	365 Wh
14S	50.4 V	58.8 V	42	7.8 Ah	393 Wh

EXAMPLE PACKS

7S2P 24V ebike / small pack 14 cells · 25.2 V 5,200 mAh · 131 Wh 100 A max	13S4P 48V ebike standard 52 cells · 46.8 V 10,400 mAh · 487 Wh 200 A max	16S4P DIY powerwall 64 cells · 57.6 V 10,400 mAh · 599 Wh 200 A max	4S6P Power tool replacement 24 cells · 14.4 V 15,600 mAh · 225 Wh 300 A max
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SIMILAR CELLS

Same format and chemistry, within ± 500 mAh.

CELL	MAH	CONTINUOUS	WH	WEIGHT	WH/KG
AWT BLACK 50A 2600mAh (this cell)	2,600	50 A	9.36	—	—
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
Nitecore NL1831	3,100	35 A	11.2	—	—
Panasonic NCR18650BD	3,100	10 A	11.2	49.5 g	225
Samsung ICR18650-30B	2,950	5.9 A	11.2	48 g	232

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 Savors page	cellsaviors.com/cell-database/awt-black-50a-2600mah
Independent test (Mooch)	https://www.e-cigarette-forum.com/threads/awt-red-black-50a-2600mah
Full cell database	cellsaviors.com/cell-database