

Illustrative render generated from published specifications

18.25 × 65 mm
47 g

Sanyo

UR18650W2



Live page & updates

Sanyo

18650

NMC

1,500 mAh CAPACITY	15 A RATED CONTINUOUS	3.7 V NOMINAL · 2.8 – 4.2 V	5.55 Wh ENERGY · 118.09 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

Higher discharge than 84% of 18650 cells in our database.

Great for high-drain builds.

VOLTAGE OPERATING WINDOW

1.4 V usable

Cutoff 2.8 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.

APPLICATION SUITABILITY

Rule-of-thumb ratings from this cell's capacity and continuous discharge. Check your own load before committing.

Powerwalls	Usable for powerwalls but lower capacity means you'll need more cells to hit your target kWh.
Ebike packs	Not enough discharge for ebike use. Voltage sag would be a problem under load.
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	Lower capacity means shorter runtime. Better cells are available for flashlight use.
Power tools	Sufficient discharge and capacity for most power tool packs.

IDENTITY		PHYSICAL	
Manufacturer	Sanyo	Diameter	18.25 mm
Model	UR18650W2	Length	65 mm
Format	18650	Weight	47 g
Chemistry	NMC	ELECTRICAL	
Wrap colour	Red		
Insulator	Pink		
Terminal	Flat top		
Protection	Unprotected		
OPERATING TEMPERATURE			
Charging	0°C to 40°C	Rated capacity	1,500 mAh
Discharging	-20°C to 60°C	Nominal voltage	3.7 V
ENERGY & POWER DENSITY		Max charge voltage	4.2 V
		Discharge cutoff	2.8 V
		Energy	5.55 Wh
		Max continuous discharge	15 A (datasheet)
		Discharge C-rate	10C
		Standard charge current	1,050 mA
		Typical charge time	1.4 h
Energy	5.55 Wh	Standard discharge	300mA
Specific energy	118.09 Wh/kg		
Volumetric density	326.41 Wh/L		
Power density (mass)	1,181 W/kg		
Power density (volume)	3,264 W/L		
Capacity ranking	#149 of 169 18650s		
C-RATE CONVERSION · 1,500 MAH			
C-RATE	CURRENT	THEORETICAL RUNTIME	
0.2C	0.3 A	5h 00m	
0.5C	0.75 A	2h 00m	
1C	1.5 A	1h 00m	
2C	3 A	30m	
3C	4.5 A	20m	
5C	7.5 A	12m	

8C

12 A

7m 30s

10C

15 A

6m

Highlighted row is closest to the rated 15 A continuous discharge.

CHARGING

RATE	CURRENT	ESTIMATED TIME TO FULL
0.5C	750 mA	~2h 00m
Standard	1,050 mA	~1h 26m
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 30 A max · ≈0.66 kg cells	13S4P 48V ebike standard 52 cells · 48.1 V 6,000 mAh · 289 Wh 60 A max · ≈2.44 kg cells	16S4P DIY powerwall 64 cells · 59.2 V 6,000 mAh · 355 Wh 60 A max · ≈3.01 kg cells	4S6P Power tool replacement 24 cells · 14.8 V 9,000 mAh · 133 Wh 90 A max · ≈1.13 kg cells
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SIMILAR CELLS

Same format and chemistry, within ± 500 mAh.

CELL	MAH	CONTINUOUS	WH	WEIGHT	WH/KG
Sanyo UR18650W2 (this cell)	1,500	15 A	5.55	47 g	118
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 2.8V.
- 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/sanyo-ur18650w2
Manufacturer datasheet	http://www.datasheet.jp/download.php?id=1006973
Full cell database	cellsaviors.com/cell-database