

Illustrative render generated from published specifications

18.6 × 65.3 mm
46.2 g

Sanyo
UR18650RX



Live page & updates

Sanyo

18650 NMC

1,950 mAh CAPACITY	20 A RATED CONTINUOUS	3.6 V NOMINAL · 2.8 – 4.2 V	7.02 Wh ENERGY · 151.95 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 #142 of 169 Lowest in databaseHighest Higher discharge than 91% of 18650 cells in our database. Great for high-drain builds.	VOLTAGE OPERATING WINDOW 1.4 V usable Cutoff 2.8 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	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	Enough discharge to handle amplifier bursts without voltage sag.
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	18.6 mm
Model	UR18650RX	Length	65.3 mm
Format	18650	Weight	46.2 g
Chemistry	NMC	ELECTRICAL	
Wrap colour	■ Red	Rated capacity	1,950 mAh
Insulator	■ Blue	Nominal voltage	3.6 V
Terminal	Flat top	Max charge voltage	4.2 V
Protection	Unprotected	Discharge cutoff	2.8 V
OPERATING TEMPERATURE		Energy	7.02 Wh
Charging	0°C to 40°C	Internal resistance	25 mΩ
Discharging	-20°C to 60°C	Max continuous discharge	20 A (datasheet)
ENERGY & POWER DENSITY		Discharge C-rate	10.3C
Energy	7.02 Wh	Standard charge current	1,360 mA
Specific energy	151.95 Wh/kg	Typical charge time	1.4 h
Volumetric density	395.65 Wh/L	Standard discharge	390mA
Power density (mass)	1,558 W/kg		
Power density (volume)	4,058 W/L		
Capacity ranking	#142 of 169 18650s		
C-RATE CONVERSION · 1,950 MAH			
C-RATE	CURRENT	THEORETICAL RUNTIME	
0.2C	0.39 A	5h 00m	
0.5C	0.98 A	2h 00m	
1C	1.95 A	1h 00m	
2C	3.9 A	30m	
3C	5.85 A	20m	
5C	9.75 A	12m	

8C	15.6 A	7m 30s
10C	19.5 A	6m

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

CHARGING

RATE	CURRENT	ESTIMATED TIME TO FULL
0.5C	975 mA	~2h 00m
Standard	1,360 mA	~1h 26m
1C	1,950 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	5.9 Ah	63 Wh
7S	25.2 V	29.4 V	21	5.9 Ah	147 Wh
10S	36 V	42 V	30	5.9 Ah	211 Wh
13S	46.8 V	54.6 V	39	5.9 Ah	274 Wh
14S	50.4 V	58.8 V	42	5.9 Ah	295 Wh

EXAMPLE PACKS

7S2P 24V ebike / small pack 14 cells · 25.2 V 3,900 mAh · 98 Wh 40 A max · ≈0.65 kg cells	13S4P 48V ebike standard 52 cells · 46.8 V 7,800 mAh · 365 Wh 80 A max · ≈2.4 kg cells	16S4P DIY powerwall 64 cells · 57.6 V 7,800 mAh · 449 Wh 80 A max · ≈2.96 kg cells	4S6P Power tool replacement 24 cells · 14.4 V 11,700 mAh · 168 Wh 120 A max · ≈1.11 kg cells
--	---	---	---

SIMILAR CELLS

Same format and chemistry, within ± 500 mAh.

CELL	MAH	CONTINUOUS	WH	WEIGHT	WH/KG
Sanyo UR18650RX (this cell)	1,950	20 A	7.02	46.2 g	152
Samsung ICR18650-24A	2,400	4.8 A	8.9	47 g	189
Samsung ICR18650-24B	2,400	4.8 A	8.9	47 g	189
Samsung ICR18650-24E	2,400	4.8 A	8.9	47 g	189
Samsung ICR18650-24F	2,400	5 A	8.9	47 g	189
Sanyo UR18650FB	2,400	4.8 A	8.9	—	—

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-ur18650rx
Manufacturer datasheet	https://www.akkuparts24.de/mediafiles/Datenblaetter/Panasonic/...
Full cell database	cellsaviors.com/cell-database