

18.5 × 65.3 mm
48 g

Sanyo · released 2015

NMC

MOOCH-TESTED · 10 A

CAPACITY

MOOCH CONTINUOUS

NOMINAL · 2.5 – 4.2 V

ENERGY · 247.5 WH/KG

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.

Lowest in database Highest



A horizontal bar representing a voltage range. It starts with an orange segment labeled 'Cutoff 2.5 V', followed by a small black segment, and then a green segment labeled 'Max 4.2 V'. The label 'Nominal 3.6 V' is positioned below the orange segment.

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

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|----------------------------|---|
| ● 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 Moolich 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

Manufacturer	Sanyo
Model	NCR18650GA
Format	18650
Chemistry	NMC
Year released	2015
Wrap colour	Red
Insulator	Blue
Terminal	Flat top
Protection	Unprotected

OPERATING TEMPERATURE

Charging	10°C to 45°C
Discharging	-20°C to 60°C

ENERGY & POWER DENSITY

Energy	11.88 Wh
Specific energy	247.5 Wh/kg
Volumetric density	676.81 Wh/L
Power density (mass)	750 W/kg
Power density (volume)	2,051 W/L
Capacity ranking	#6 of 169 18650s

PHYSICAL

Diameter	18.5 mm
Length	65.3 mm
Weight	48 g

ELECTRICAL

Rated capacity	3,300 mAh
Nominal voltage	3.6 V
Max charge voltage	4.2 V
Discharge cutoff	2.5 V
Energy	11.88 Wh
Max continuous discharge	10 A (mooch)
Discharge C-rate	3C
Standard charge current	1,475 mA
Typical charge time	2.2 h
Standard discharge	2000mA
Cycle life	300 cycles

C-RATE CONVERSION · 3,300 MAH

C-RATE	CURRENT	THEORETICAL RUNTIME
0.2C	0.66 A	5h 00m
0.5C	1.65 A	2h 00m
1C	3.3 A	1h 00m
2C	6.6 A	30m
3C	9.9 A	20m

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

CHARGING

RATE	CURRENT	ESTIMATED TIME TO FULL
Standard	1,475 mA	~2h 14m
0.5C	1,650 mA	~2h 00m
1C	3,300 mA	~1h 00m

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

SERIES PACK CONFIGURATIONS

Voltagess 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	9.9 Ah	107 Wh
7S	25.2 V	29.4 V	21	9.9 Ah	249 Wh
10S	36 V	42 V	30	9.9 Ah	356 Wh
13S	46.8 V	54.6 V	39	9.9 Ah	463 Wh
14S	50.4 V	58.8 V	42	9.9 Ah	499 Wh

EXAMPLE PACKS

7S2P 24V ebike / small pack 14 cells · 25.2 V 6,600 mAh · 166 Wh 20 A max · ≈0.67 kg cells	13S4P 48V ebike standard 52 cells · 46.8 V 13,200 mAh · 618 Wh 40 A max · ≈2.5 kg cells	16S4P DIY powerwall 64 cells · 57.6 V 13,200 mAh · 760 Wh 40 A max · ≈3.07 kg cells	4S6P Power tool replacement 24 cells · 14.4 V 19,800 mAh · 285 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
Sanyo NCR18650GA (this cell)	3,300	10 A	11.88	48 g	248
LG LGEBMJ11865	3,500	10 A	12.7	—	—
LG LGDBMJ11865	3,500	10 A	12.7	49 g	259
LG LGABF1L1865	3,350	4.9 A	12.2	49 g	248
LG LGGBF1L1865	3,350	4.9 A	12.2	—	—
Panasonic NCR18650B	3,350	4 A	12.1	47.5 g	254

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/sanyo-ncr18650ga
Manufacturer datasheet	https://www.orbtronic.com/content/Datasheet-specs-Sanyo-Panaso...
Independent test (Mooch)	https://www.e-cigarette-forum.com/threads/bench-test-results-p...
Full cell database	cellsaviors.com/cell-database