18.3 × 65 mm
41 g

Hitachi Maxell (HM) INR18650PB1

Hitachi Maxell (HM)

18650 NMC

Live page & updates

1,500 mAh	15 A	3.6 V	5.4 Wh
CAPACITY	RATED CONTINUOUS	NOMINAL · 2.5 – 4.2 V	ENERGY · 131.71 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.

CAPACITY AMONG 18650S — #251 of 279

Lowest in database — Highest

A mid-range 18650 cell. Solid for builds that don't need extreme capacity or discharge.

VOLTAGE OPERATING WINDOW — 1.7 V usable

Cutoff 2.5 V — Nominal 3.6 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

Manufacturer	**Hitachi Maxell (HM)**
Model	**INR18650PB1**
Format	**18650**
Chemistry	**NMC**
Wrap colour	**Grey (Dark)**
Insulator	**Black**
Terminal	**Flat top**
Protection	**Unprotected**

OPERATING TEMPERATURE

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

ENERGY & POWER DENSITY

Energy	**5.4 Wh**
Specific energy	**131.71 Wh/kg**
Volumetric density	**315.86 Wh/L**
Power density (mass)	**1,317 W/kg**
Power density (volume)	**3,159 W/L**
Capacity ranking	**#251 of 279 18650s**

PHYSICAL

Diameter	**18.3 mm**
Length	**65 mm**
Weight	**41 g**

ELECTRICAL

Rated capacity	**1,500 mAh**
Nominal voltage	**3.6 V**
Max charge voltage	**4.2 V**
Discharge cutoff	**2.5 V**
Energy	**5.4 Wh**
Internal resistance	**25 mΩ**
Max continuous discharge	**15 A (datasheet)**
Discharge C-rate	**10C**
Standard charge current	**750 mA**
Typical charge time	**2 h**
Standard discharge	**750mA**

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
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	10.8 V	12.6 V	9	4.5 Ah	49 Wh
7S	25.2 V	29.4 V	21	4.5 Ah	113 Wh
10S	36 V	42 V	30	4.5 Ah	162 Wh
13S	46.8 V	54.6 V	39	4.5 Ah	211 Wh
14S	50.4 V	58.8 V	42	4.5 Ah	227 Wh

EXAMPLE PACKS

7S2P
24V ebike / small pack

14 cells · 25.2 V

3,000 mAh · 76 Wh

30 A max · ≈0.57 kg cells

13S4P
48V ebike standard

52 cells · 46.8 V

6,000 mAh · 281 Wh

60 A max · ≈2.13 kg cells

16S4P
DIY powerwall

64 cells · 57.6 V

6,000 mAh · 346 Wh

60 A max · ≈2.62 kg cells

4S6P
Power tool replacement

24 cells · 14.4 V

9,000 mAh · 130 Wh

90 A max · ≈0.98 kg cells

SIMILAR CELLS

Same format and chemistry, within ±500 mAh.

CELL	MAH	CONTINUOUS	WH	WEIGHT	WH/KG
Hitachi Maxell (HM) INR18650PB1 (this cell)	**1,500**	**15 A**	**5.4**	**41 g**	**132**
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 2.5V.
- 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/hitachi-maxell-hm-inr18650pb1
Full cell database	cellsaviors.com/cell-database