

Illustrative render generated from published specifications

18.29 × 65.05 mm  
47 g

LG LGDS318650

LG · also sold as ICR18650S3 · released  
2007



Live page & updates

18650   NMC

|                                          |                                              |                                                 |                                                     |
|------------------------------------------|----------------------------------------------|-------------------------------------------------|-----------------------------------------------------|
| <div>2,200 mAh</div> <div>CAPACITY</div> | <div>4.3 A</div> <div>RATED CONTINUOUS</div> | <div>3.6 V</div> <div>NOMINAL · 3 – 4.2 V</div> | <div>7.92 Wh</div> <div>ENERGY · 168.51 WH/KG</div> |
|------------------------------------------|----------------------------------------------|-------------------------------------------------|-----------------------------------------------------|

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.

|                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>CAPACITY AMONG 18650S</div> <div>#87 of 169</div> <div><div></div></div> <div>Lowest in databaseHighest</div> <div>A mid-range 18650 cell. Solid for builds that don't need extreme capacity or discharge.</div> | <div>VOLTAGE OPERATING WINDOW</div> <div>1.2 V usable</div> <div><div></div></div> <div>Cutoff 3 VNominal 3.6 VMax 4.2 V</div> <div>Below nominal the cell sags fast under load; above it, the last of the capacity fills slowly on the constant-voltage taper.</div> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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         | Not enough discharge for car audio amplifiers. You need at least 15-20A continuous for most setups. |
| 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       | Not enough discharge or capacity for power tool use.                                                |

IDENTITY

|               |                             |
|---------------|-----------------------------|
| Manufacturer  | LG                          |
| Model         | LGDS318650                  |
| Also sold as  | ICR18650S3                  |
| Format        | 18650                       |
| Chemistry     | NMC                         |
| Year released | 2007                        |
| Wrap colour   | <div><div></div>Blue</div>  |
| Insulator     | <div><div></div>White</div> |
| Terminal      | Flat top                    |
| Protection    | Unprotected                 |

OPERATING TEMPERATURE

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

ENERGY & POWER DENSITY

|                        |                   |
|------------------------|-------------------|
| Energy                 | 7.92 Wh           |
| Specific energy        | 168.51 Wh/kg      |
| Volumetric density     | 463.4 Wh/L        |
| Power density (mass)   | 329 W/kg          |
| Power density (volume) | 906 W/L           |
| Capacity ranking       | #87 of 169 18650s |

C-RATE CONVERSION · 2,200 MAH

| C-RATE | CURRENT | THEORETICAL RUNTIME |
|--------|---------|---------------------|
| 0.2C   | 0.44 A  | 5h 00m              |
| 0.5C   | 1.1 A   | 2h 00m              |
| 1C     | 2.2 A   | 1h 00m              |
| 2C     | 4.4 A   | 30m                 |

Highlighted row is closest to the rated 4.3 A continuous discharge.

PHYSICAL

|          |          |
|----------|----------|
| Diameter | 18.29 mm |
| Length   | 65.05 mm |
| Weight   | 47 g     |

ELECTRICAL

|                          |                   |
|--------------------------|-------------------|
| Rated capacity           | 2,200 mAh         |
| Nominal voltage          | 3.6 V             |
| Max charge voltage       | 4.2 V             |
| Discharge cutoff         | 3 V               |
| Energy                   | 7.92 Wh           |
| Internal resistance      | 80 mΩ             |
| Max continuous discharge | 4.3 A (datasheet) |
| Discharge C-rate         | 2C                |
| Standard charge current  | 1,075 mA          |
| Typical charge time      | 2 h               |
| Standard discharge       | 430mA             |
| Cycle life               | 300 cycles        |

CHARGING

| Rate | Current  | Estimated Time to Full |
|------|----------|------------------------|
| 0.5C | 1,100 mA | ~2h 00m                |
| 1C   | 2,200 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           | 6.6 Ah   | 71 Wh  |
| 7S     | 25.2 V  | 29.4 V        | 21          | 6.6 Ah   | 166 Wh |
| 10S    | 36 V    | 42 V          | 30          | 6.6 Ah   | 238 Wh |
| 13S    | 46.8 V  | 54.6 V        | 39          | 6.6 Ah   | 309 Wh |
| 14S    | 50.4 V  | 58.8 V        | 42          | 6.6 Ah   | 333 Wh |

EXAMPLE PACKS

|                                                                                                                                     |                                                                                                                                   |                                                                                                                              |                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>7S2P</b></p> <p>24V ebike / small pack</p> <p>14 cells · 25.2 V</p> <p>4,400 mAh · 111 Wh</p> <p>9 A max · ≈0.66 kg cells</p> | <p><b>13S4P</b></p> <p>48V ebike standard</p> <p>52 cells · 46.8 V</p> <p>8,800 mAh · 412 Wh</p> <p>17 A max · ≈2.44 kg cells</p> | <p><b>16S4P</b></p> <p>DIY powerwall</p> <p>64 cells · 57.6 V</p> <p>8,800 mAh · 507 Wh</p> <p>17 A max · ≈3.01 kg cells</p> | <p><b>4S6P</b></p> <p>Power tool replacement</p> <p>24 cells · 14.4 V</p> <p>13,200 mAh · 190 Wh</p> <p>26 A max · ≈1.13 kg cells</p> |
|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|

## SIMILAR CELLS

Same format and chemistry, within  $\pm 500$  mAh.

| CELL                             | MAH          | CONTINUOUS   | WH          | WEIGHT      | WH/KG      |
|----------------------------------|--------------|--------------|-------------|-------------|------------|
| <b>LG LGDS318650 (this cell)</b> | <b>2,200</b> | <b>4.3 A</b> | <b>7.92</b> | <b>47 g</b> | <b>169</b> |
| Panasonic NCR18650D              | 2,700        | 5.1 A        | 10          | —           | —          |
| Sanyo UR18650ZT                  | 2,650        | 5.3 A        | 9.8         | 46 g        | 213        |
| LG LGDB118650                    | 2,600        | —            | 9.8         | —           | —          |
| LG LGDBB11865                    | 2,600        | —            | 9.8         | —           | —          |
| Sanyo UR18650ZTA                 | 2,620        | 5.8 A        | 9.7         | 48 g        | 202        |

## HANDLING & SAFETY

- Never charge above 4.2V or discharge below 3V.
- 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       | <a href="https://cellsaviors.com/cell-database/lg-lgds318650">cellsaviors.com/cell-database/lg-lgds318650</a>                                     |
| Manufacturer datasheet | <a href="https://www.tme.eu/Document/851884e7c9339fa73b5bf66663baac51/A...">https://www.tme.eu/Document/851884e7c9339fa73b5bf66663baac51/A...</a> |
| Full cell database     | <a href="https://cellsaviors.com/cell-database">cellsaviors.com/cell-database</a>                                                                 |