



Sony US18650GS

Sony

18650

NCA



Live page & updates

18.35 × 65.1 mm  
45.5 g

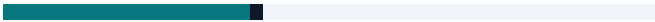
|                                          |                                            |                                                   |                                                     |
|------------------------------------------|--------------------------------------------|---------------------------------------------------|-----------------------------------------------------|
| <div>2,200 mAh</div> <div>CAPACITY</div> | <div>— A</div> <div>RATED CONTINUOUS</div> | <div>3.6 V</div> <div>NOMINAL · 2.5 – 4.2 V</div> | <div>7.92 Wh</div> <div>ENERGY · 174.07 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.

CAPACITY AMONG 18650S

#170 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.

IDENTITY

|              |                             |
|--------------|-----------------------------|
| Manufacturer | Sony                        |
| Model        | US18650GS                   |
| Format       | 18650                       |
| Chemistry    | NCA                         |
| Wrap colour  | <div><div></div>Green</div> |
| Insulator    | <div><div></div>Black</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    | 174.07 Wh/kg       |
| Volumetric density | 460.03 Wh/L        |
| Capacity ranking   | #170 of 279 18650s |

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 |

PHYSICAL

|          |          |
|----------|----------|
| Diameter | 18.35 mm |
| Length   | 65.1 mm  |
| Weight   | 45.5 g   |

ELECTRICAL

|                         |            |
|-------------------------|------------|
| Rated capacity          | 2,200 mAh  |
| Nominal voltage         | 3.6 V      |
| Max charge voltage      | 4.2 V      |
| Discharge cutoff        | 2.5 V      |
| Energy                  | 7.92 Wh    |
| Standard charge current | 1,100 mA   |
| Typical charge time     | 2 h        |
| Standard discharge      | 2200mA     |
| Cycle life              | 300 cycles |

|     |        |        |    |        |        |
|-----|--------|--------|----|--------|--------|
| 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

#### 7S2P

24V ebike / small pack

14 cells · 25.2 V

4,400 mAh · 111 Wh

· ≈0.64 kg cells

#### 13S4P

48V ebike standard

52 cells · 46.8 V

8,800 mAh · 412 Wh

· ≈2.37 kg cells

#### 16S4P

DIY powerwall

64 cells · 57.6 V

8,800 mAh · 507 Wh

· ≈2.91 kg cells

#### 4S6P

Power tool replacement

24 cells · 14.4 V

13,200 mAh · 190 Wh

· ≈1.09 kg cells

### SIMILAR CELLS

Same format and chemistry, within ±500 mAh.

| CELL                       | MAH   | CONTINUOUS | WH   | WEIGHT | WH/KG |
|----------------------------|-------|------------|------|--------|-------|
| Sony US18650GS (this cell) | 2,200 | —          | 7.92 | 45.5 g | 174   |
| Sony US18650V3             | 2,150 | 10 A       | 7.7  | 47 g   | 165   |

### 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       | <a href="https://cellsaviors.com/cell-database/sony-us18650gs">cellsaviors.com/cell-database/sony-us18650gs</a>                                   |
| Manufacturer datasheet | <a href="https://www.megacellmonitor.com/pdf/vendor_specs/SPEC_SONY_US1...">https://www.megacellmonitor.com/pdf/vendor_specs/SPEC_SONY_US1...</a> |
| Full cell database     | <a href="https://cellsaviors.com/cell-database">cellsaviors.com/cell-database</a>                                                                 |