

Component Datasheet: CobaltMax 65Ah NMC-811 Pouch Cell Specification

Overview

The **CobaltMax 65Ah** (Gigavolt Internal P/N: **CEL-NMC-065**) is a high-energy-density pouch cell deployed strictly within the **PowerStation G-3500** commercial energy storage unit.

Fabricated by Tier-1 supplier **Aura Energy Storage Ltd.** (Supplier ID: **SUP-AUR-04**), this cell utilizes a Nickel-Manganese-Cobalt cathode formulation (Ni 80%, Mn 10%, Co 10%) with a graphite-silicon composite anode.

Key Specifications

- **Nominal Capacity:** 65 Ah at 0.2 C
- **Nominal Voltage:** 3.65 V
- **Operating Voltage Boundaries:** 3.00 V to 4.20 V
- **Energy Density (Gravimetric):** 255 Wh/kg
- **Energy Density (Volumetric):** 580 Wh/L
- **Weight:** 930 g per pouch
- **Internal DC Resistance (DCR):** $\leq 1.1 \text{ m}\Omega$ (at 50% SoC, 25 °C)

Critical Handling Guidelines & Shelf-Life Conditions

- **Pouch Swelling Threshold:** Maximum allowable pouch expansion is 1.5 mm over nominal thickness (11.2 mm nominal, 12.7 mm critical maximum).
- **Storage State:** When stored longer than 14 days, cells must be maintained between 30% and 45% SoC at 10 °C to 20 °C. Storage above 40 °C for greater than 72 hours results in irreversible electrolyte degradation and micro-crack formation on cathode crystallites.
- **Fire Safety Note:** Onset of self-heating for NMC-811 occurs at 165 °C, significantly lower than LFP. Rapid escalation to thermal runaway requires immediate dry aerosol extinguishing action.