

# Impact of Current Collector Design and Cooling Topology on Fast Charging of Cylindrical Lithium-Ion Batteries

- By massively reducing polarization drops (approx. 250 mV at 3C) and heat generation inside the current collectors (up to 99%), the tabless design increases cell homogeneity and enables format-independent scalability of fast-charging performance with a tab-cooling topology
- The 0 to 0.8 SoC charge time can be reduced by 4 to 10 min compared to cells with a segmented tab design, resulting in 16.2 min for the 18650 and 21700, and 16.5 min for the larger 4680 cell format.

