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Title: Analysis & Design of a High Power Module for 48 V Applications

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Abstract

Mild-hybridisation, using a 48 V system architecture, is receiving interest, as it offers fuel consumption benefits approaching those achieved using high-voltage systems, at a much lower cost. To maximise the benefits from a 48 V mild hybrid system, it is desirable to recuperate during deceleration events at as high a power level as possible, whilst at the same time having a relatively compact and low cost unit. This paper examines the particular requirements of the battery pack for such a mild-hybrid application and describes the concept proposed for a 48 V pack that can charge and discharge at high C-rates.