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COMPENSATION FOR SATELLITE APPLICATIONS**Abstract**

Multiple output converter can reduce the number and cost of devices in small satellite power supply system, and the efficiency and cross-regulation are the key factors for its application. The LLC multiple output topology working at resonance point can provide high conversion efficiency, while the series voltage compensation circuit can compensate the bus voltage fluctuation. The series voltage compensation circuit only deals with part of the power, which has little effect on the total efficiency, to achieve high efficiency in the range of full input voltage. Moreover, the series voltage compensation circuit does not affect the operating characteristics of LLC and improves the reliability of the converter. In this paper, a series compensated LLC multiple output converter is designed and modelled. The model proves that the cross-regulation rate of this design is within a reasonable range, and the circuit loop is stable. In the whole operating range, the efficiency of the 100W prototype is over 93