



## **Title: SMPS - an alternative perspective**

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The buck, boost and buck-boost converters are analyzed and assessed from a non-standard perspective. Consideration of their three port operation and reverse operation allows easy analysis of the Cuk, Sepic and Zeta converters. Transformer coupling of the Cuk converter, allows identify of similar converters that can be transformer coupled, giving input to output isolation. Other converter features allow identification of 9 converters suitable for PV interfacing, where continuous input current minimizes the need for capacitance at the PV

output.

Professor Barry Williams is a graduate of Adelaide University, Australia and Cambridge University, UK. He was a lecturer at Imperial College, London for 7 years, Professor of Electrical Engineering at Heriot-Watt University, Edinburgh for 19 years. He is currently a Professor at Strathclyde University, Glasgow, U.K., where he is engaged in teaching power electronics (in which he has a free internet text) and drive systems. His current research interests include power semiconductor modeling and protection, converter topologies, soft-switching techniques, and application of application-specified integrated circuits and DSPs to industrial electronics.

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