SUSTAINABLE MATERIALS, PROCESSES AND SYSTEMS FOR ENERGY TRANSITION

DM 630/VISHAY - Powering the next generation AI server – architecture and implementation of a ‘48V based’ power delivery network

Funded By	VISHAY SEMICONDUCTOR ITALIANA SPA [P.iva/CF:00475790010] Ministero dell'Università e della Ricerca - MUR [P.iva/CF:96446770586] Politecnico di TORINO [P.iva/CF:00518460019]
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Context of the research activity	• Identify optimal topology for power conversion from 48V supply to most relevant power rails in a modern AI server, analyzing trade offs concerning area, cost, power density and manufacturability. • Develop control strategy for the various stages of power conversion, describing all the necessary features to make the system to be robust and fault tolerant. • Provide guidance for the design and industrialization of active and passive components that are the building blocks of the chosen topology • Implement and validate the concept with experimental results. Progetto finanziato dal PNRR a valere sul DM 630/2024 - CUP: E14D24002340004
Objectives	Progetto finanziato dal PNRR a valere sul DM 630/2024 - CUP: E14D24002340004
Skills and competencies for the development of the activity	Preferably Master's degree in electronic engineer, computer engineering. The candidate should have solid base in math, physics and electronics. Basic skill in: Power Electronics, Magnetics, Resonant converters are welcome. Simplis, Simulink/Matlab, Spice, Allegro, Phyton are tools that will be necessary.