ELECTRICAL, ELECTRONICS AND COMMUNICATIONS ENGINEERING

VISHAY - Study and characterization of innovative processes for power semiconductor devices on 8 “ silicon and 6” silicon carbide wafers

Funded By	VISHAY SEMICONDUCTOR ITALIANA SPA [P.iva/CF:00475790010]
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Context of the research activity	Study, research and development of process steps for the realization of power electronic devices on silicon and silicon carbide wafers with particular reference to the reliability and qualification of the process line
Objectives	Electronic Power Conversion is a key element for the development of sustainable modern lifestyle, and represents an interesting field of research with significant impact in different fields of application such as transport electrification, energy, advanced manufacturing. In this framework, the objective of the research activity is the study and development of innovative processes for power semiconductor devices on 8 “ silicon and 6” silicon carbide wafers capable to meet needs of a demanding market, where high efficiency, together with reliability in harsh working conditions are becoming a requirement in order to be compliant with new standards and governments regulations. The research activity will be carried out in collaboration with Vishay Semiconductor Italiana SpA
Skills and competencies for the development of the activity	• Background in semiconductor materials, devices and characterization methods. • Background in power and/or analog electronics • Background in processes and technologies used for manufacturing power semiconductor devices • Background in statistic data analysis (JMP, Minitab, Matlab) • Background in software tools (Python, C++, VBS, VBA, Visual Basic) • Teamwork mindset and ability to work in multi-disciplinary environment • Good logical and analysis capability, including good self-organizational mindset