

New Failure Analysis Laboratory in ONPY EFA Laboratory, ON Semiconductor Piestany

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Activities in Piestany this and the previous year gave the foundation for growth of a new in-house Failure Analysis laboratory. This laboratory, named Electrical Failure Analysis Lab, is focused on looking for how and why a semiconductor device or structure has failed. Results of Failure analyses from this lab give feedback to process engineering so that process issues can be eliminated thus leading to improve yields. The laboratory is equipped with several analytical tools and techniques including: backside photoemission microscopy, laser cutting, electrical characterization (on-wafer measurements by probe heads, probe cards, microprobes, DC, Impedance, C-V, C-t), localization of hot spots with the use of liquid crystals and several others. For more information about the EFA Laboratory you can access our internal web page at <http://onpy.onsemi.com/efa>. On these pages you can find description of the laboratory, further plans, available tools, techniques with numerous examples, and explanations. Also there are listed laboratory activities (trainings, seminars, workshops, etc.) and results of internship students who worked in EFA Lab. The EFA lab works in cooperation with other corporate product analysis laboratories, especially in Phoenix and Roznov, Slovak Technical University, Slovak Academy of Science and others. Thinking into the future forces us to look for opportunities to extend analytical techniques and expand available corporate wide support for failure analysis at Piestany site.



Piestany EFA Lab team: from left, J. Bobula, M. Pripko, J. Solar, T. Niedereichholz*, T. Franzl* (* Hamamtsu DE) and V. Kulikov. In the background: new installed Phemos-1000 backside photoemission microscope.