

# TAKAMIYA LAB.

## [Integrated Power Management]



Centre for Interdisciplinary Research on Micro-Nano Methods (CIRMM)

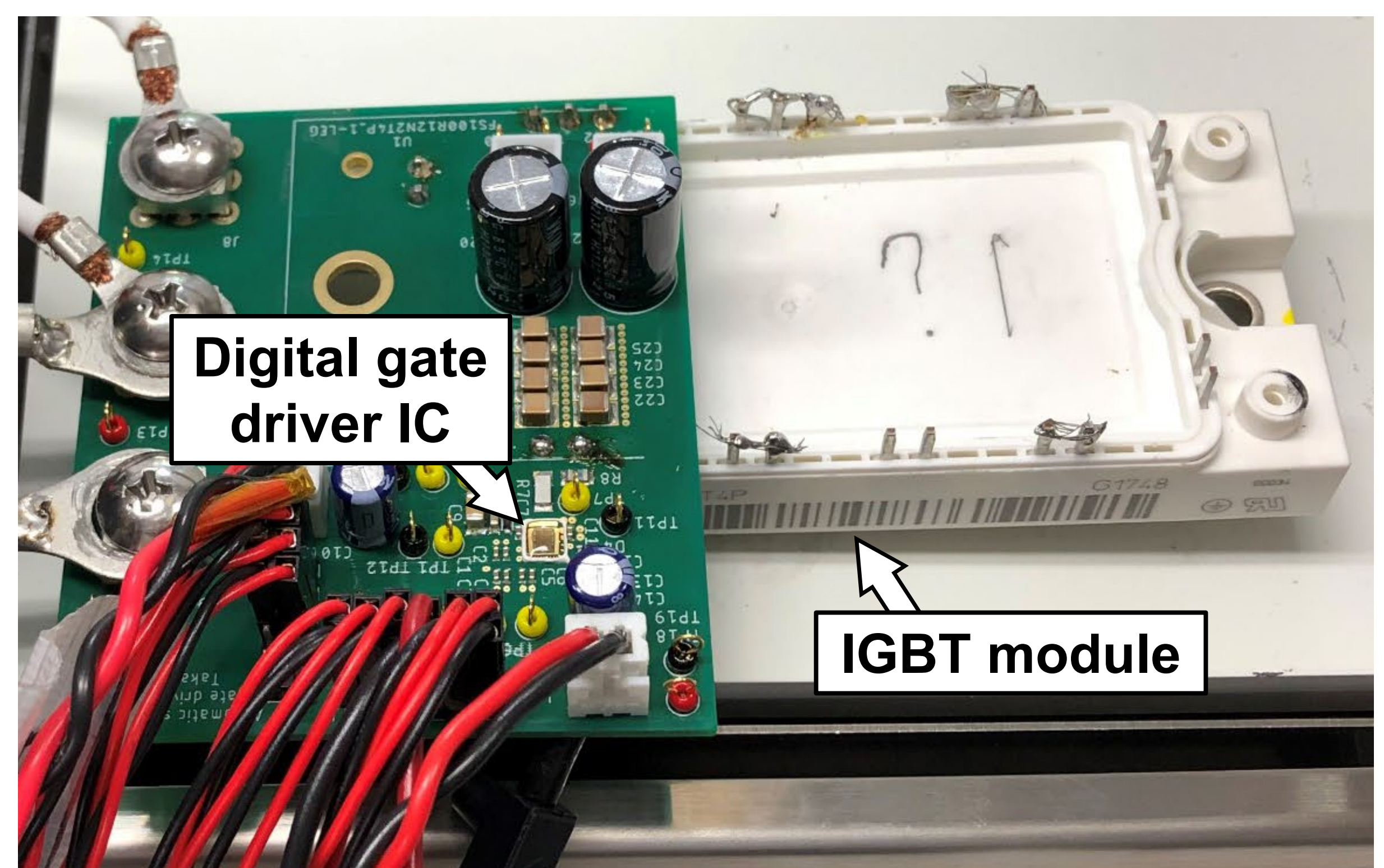
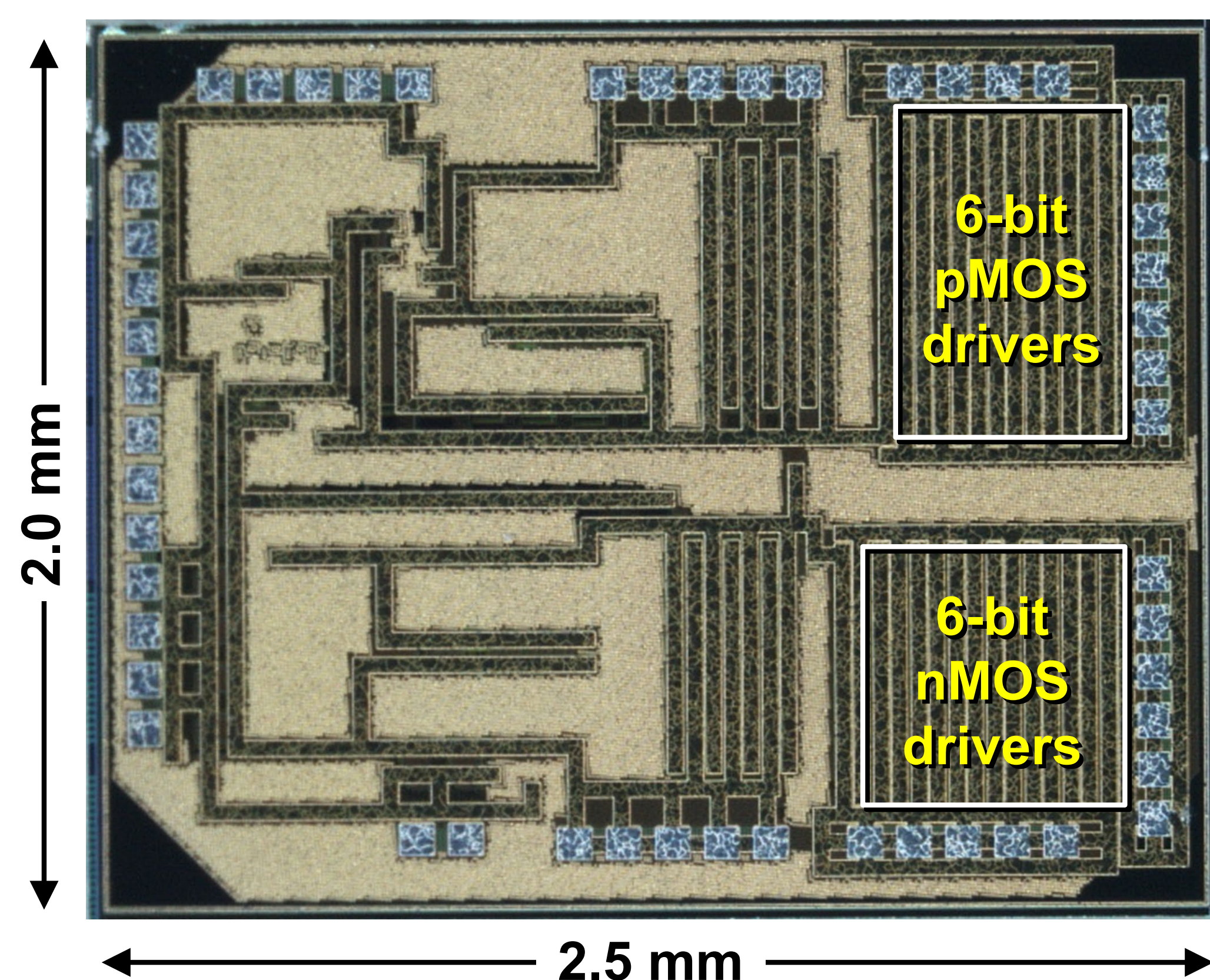
Integrated Power Management

Department of Electrical Engineering and Information Systems

<http://icdesign.iis.u-tokyo.ac.jp/>

To achieve a carbon-free world by 2050, we are conducting research on **integrated power management**, in which a small IC chip can intelligently handle large amounts of power, with the goal of making power electronics systems more energy-efficient.

**World's first IC chip that controls power semiconductors for energy saving**  
—Automatic waveform changing gate driver IC chip reduces energy loss by 49%.—



**Hybrid DC-DC converters for automotive applications**  
(Mixed inductors and capacitors reduce losses.)

