

Multi-sensor Platform LSI

Our original Multi-sensor Platform LSI have 3 basic functions as a platform:

1. Multi-kind and multi-channel sensing

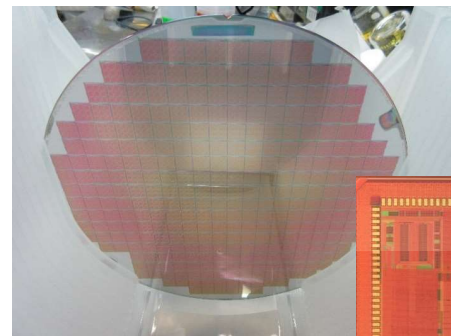
- Cap. and analog voltage output sensor
- Temperature sensor
- 8-multi channel for cap. and analog sensor readout

2. High-efficiency communication

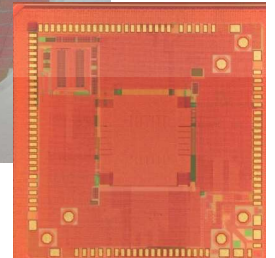
- Max. 256 LSIs / bus
 - Verified 100 LSIs / bus
- Event-driven response
- Differential communication
- Original ASYNC. comm.

3. Integration friendly structures

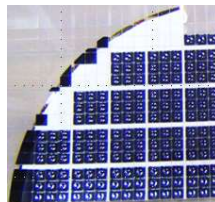
- Bonding area
- Sensor shield
- TSV access pad



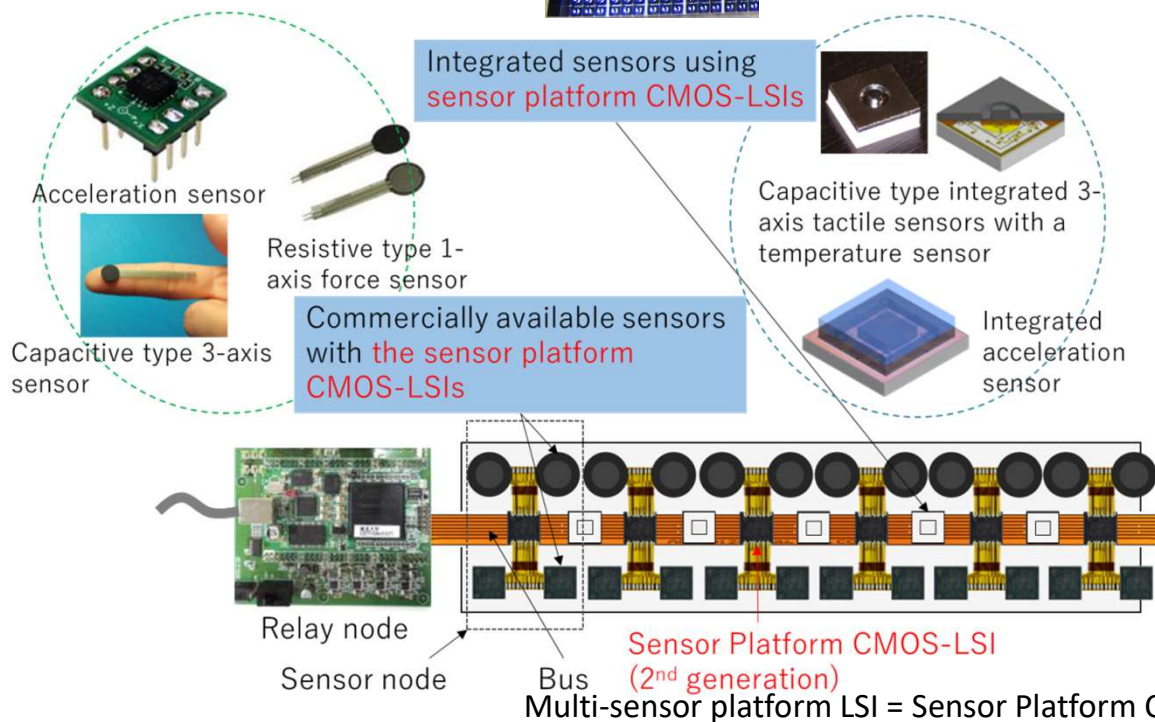
TSMC0.13μm CMOS
8-inch wafer fabrication
2.5mm X 2.5mm size



ASSP(Application Specific Standard Product)



We have wafer-level LSI-MEMS integration and packaging technologies for such as integrated tactile sensor devices



We have some demonstration systems and tools for the multi-sensor platform LSIs

- Tactile sensor module H/W and S/W
- API (Application Programming Interface) for preparing easy and good software

C. Shao, H. Hirano, H. Miyaguchi, M. Nomoto, M. Muroyama and S. Tanaka, "Event-Driven Tactile Sensing System Including 100 CMOS-MEMS Integrated 3-Axis Force Sensors Based on Asynchronous Serial Bus Communication," in *IEEE Sensors Journal*, vol. 20, no. 17, pp. 10159-10169, 1 Sept.1, 2020, doi: 10.1109/JSEN.2020.2991259.

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