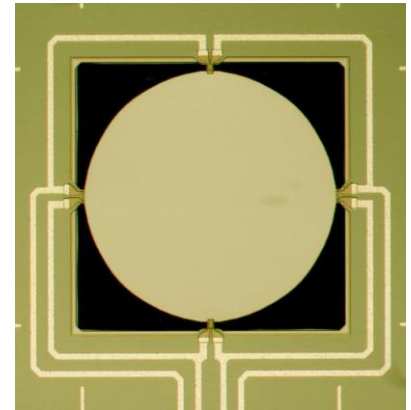
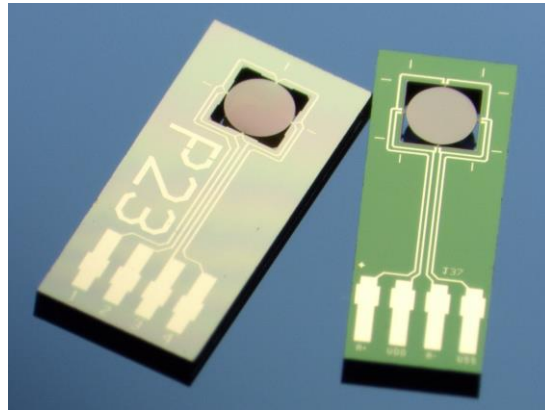
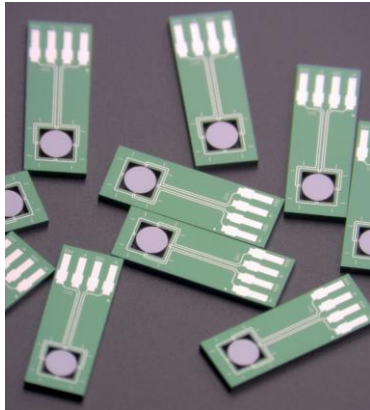
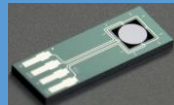



Membrane-type Surface-stress Sensor (MSS)



- Silicon membrane platform supported with four beams with integrated piezoresistors. MEMS technologies are employed to produce the sensor.
- Applications: electronic nose, odor/flavor sensing, human breath analysis *e.g.*, for cancer research (Note: For these applications, an appropriate receptor layer must be coated on the membrane by user.), nanomechanical sensing, magnetometry at low temperatures, *etc.*
- Manual coating feasibility (*e.g.* a drop of 0.05 ~ 0.5µl)

	SD-MSS-1K	SD-MSS-1K2G
Code		
Membrane diameter [µm]	1000	
Membrane thickness [µm]	5.2 (typical)	2.5 (typical)
Chip dimensions [mm]	app. 5.5 x 2.0 x 0.3	app. 5.5 x 2.5 x 0.3
Resistance value [kΩ]	2 – 15	2 – 6
Electric configuration	Full bridge, 4 pads with 0.5 mm pitch	
Coating (functionalization)	No	
Applications	E-nose /Olfactory system, Force/ Torque measurement, <i>etc.</i>	



- Plug-in Connection: fits to commercial FPC (Flexible Printed Circuit)/ FFC (Flexible Flat Cable) connectors
- How it works: Upon absorbing volatile organic compounds (VOCs), the receptor layer coated on the membrane yields surface stress and deforms the membrane. In a material assessment application, a force generated by a glued sample deforms the membrane. The piezoresistors detect the deformation.

