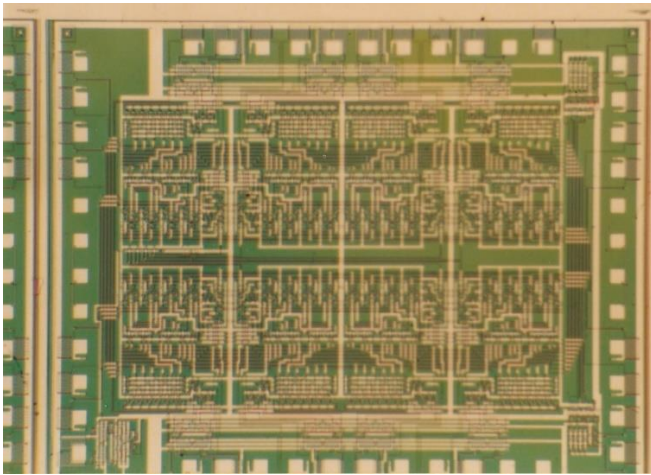
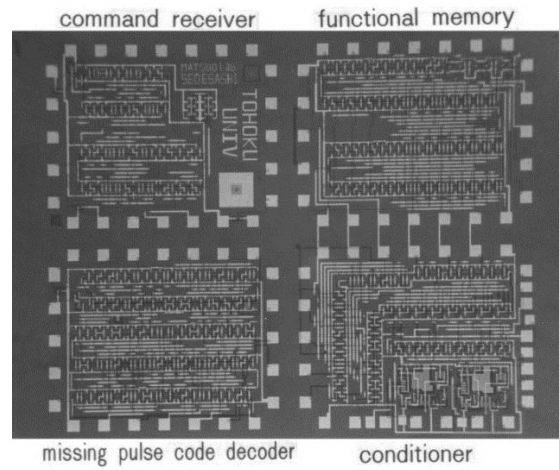


[6] Fabricated custom LSI (channel length 10  $\mu\text{m}$ 、1000 Tr/chip)



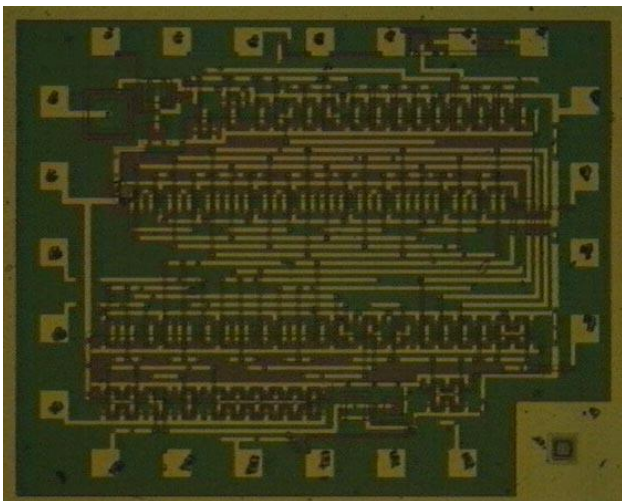
Bit serial parallel image processing LSI

(M. Esashi : Basics of integrated circuit design, (1986) Baifukan) (in Japanese)



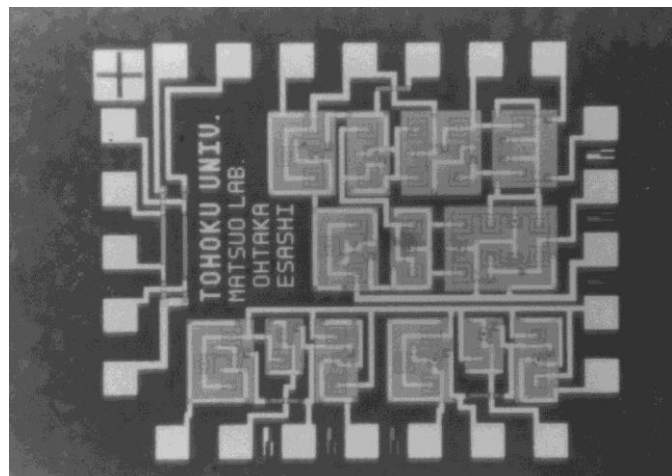
Implantable telemetry LSI

(H.Seo, M.Esashi and T.Matsuo : Manufacture of Custom CMOS LSI for an Implantable Multipurpose Biotelemetry System, Frontiers of Medical and Biological Engineering, 1, 4 (1989) 319-329)



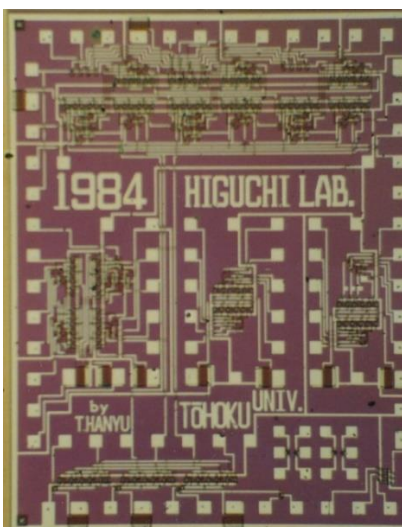
IC for tactile sensor array using common two wires

(M.Esashi and Y.Matsumoto : Common Two Lead Wires Sensing Transducers'91, San Francisco, USA (1991) 330-333)



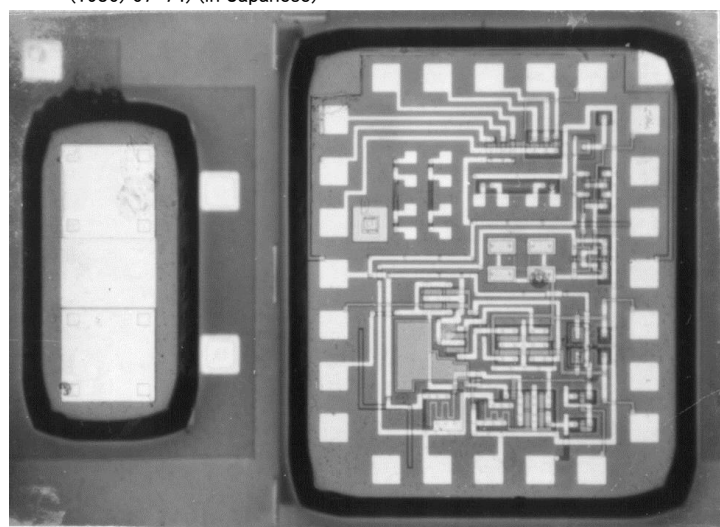
SOS (Si on Sapphire) CMOS OP amp IC for high temperature

(M. Esashi, S. Ohtaka, T.Matsuo : Fabrication of High Temperature Integrated System, Circuit and High Temperature Pressure Sensor, Technical Report IECE, SSD86-57 (1986) 67-74) (in Japanese)



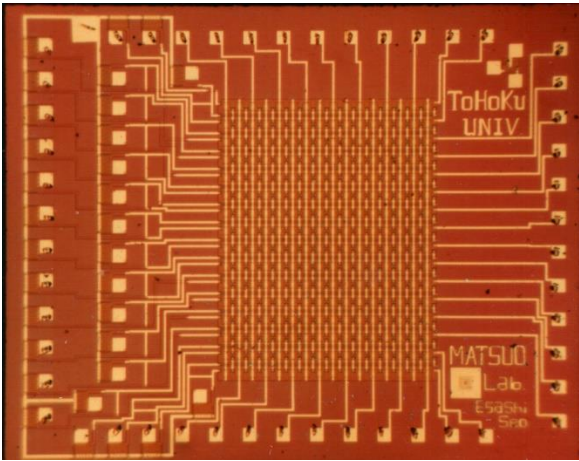
Multi-valued logic IC

(M.Kameyama, T.Haniyu, M.Esashi and T.Higuchi : An NMOS Pipelined Image Processor Using Quaternary Logic, IEEE Int. Solid-State Circuit Conf., San Francisco, USA (1985) 86-87)

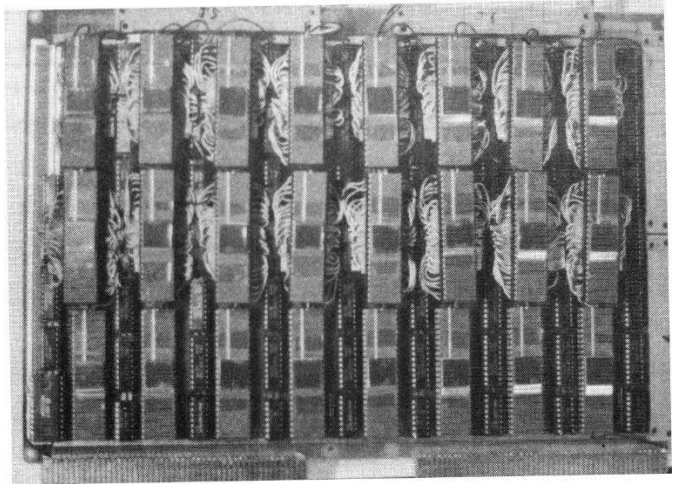


Direct bonded capacitive pressure sensor using switched capacitor IC

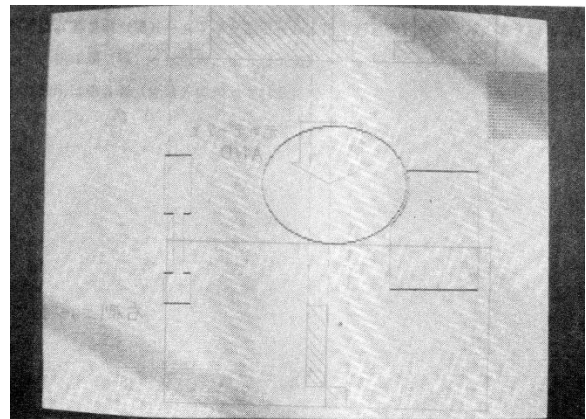
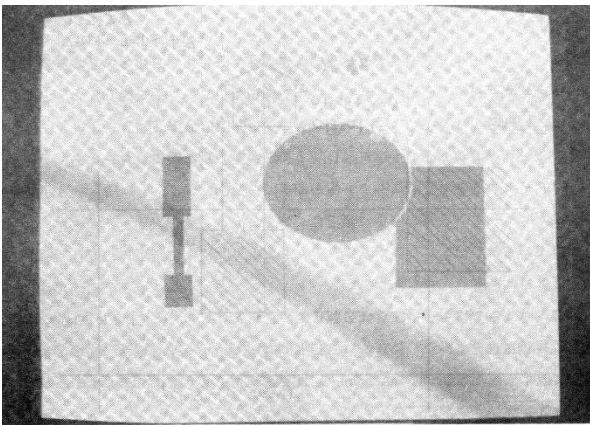
(S.Shoji, T.Nisase, M.Esashi and T.Matsuo : Fabrication of an Implantable Capacitive Type Pressure Sensor, The 4th Int. Conf. on Solid State Sensors and Actuators, Tokyo, Japan (1987) 305-308)



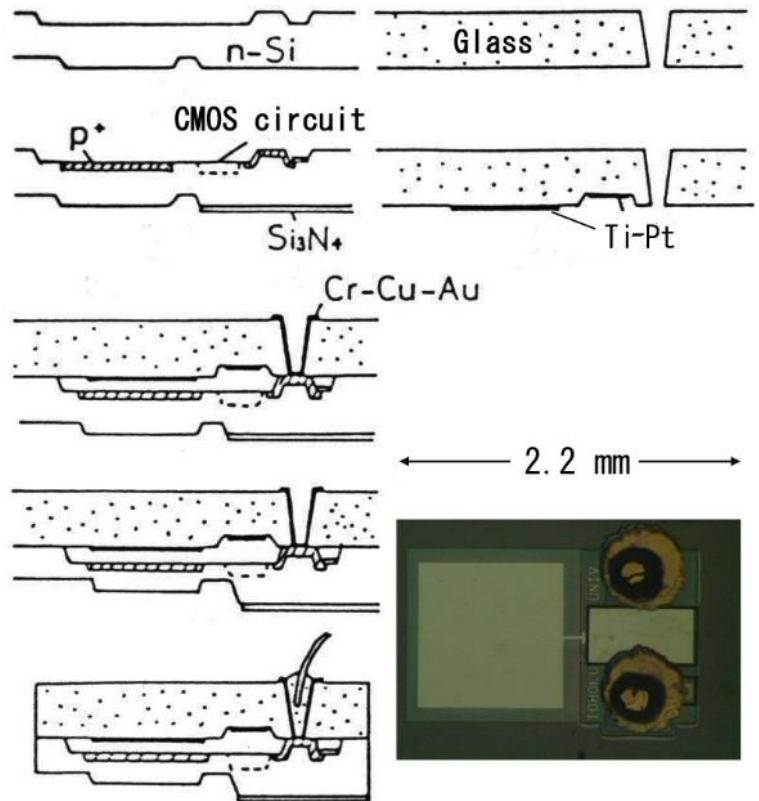
Barrel shifter



Switching network board using the barrel shifter (displayed)



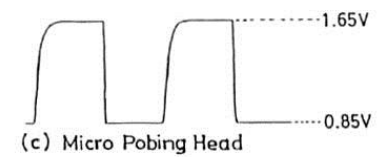
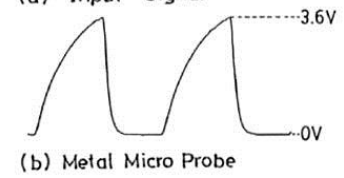
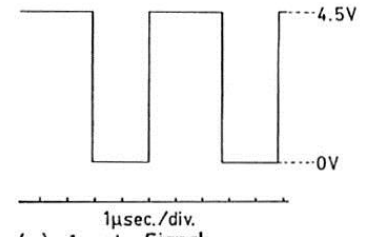
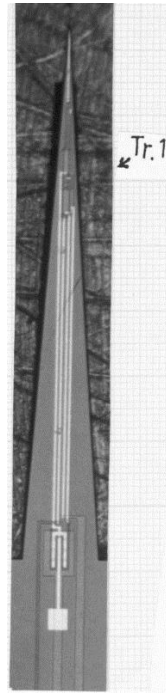
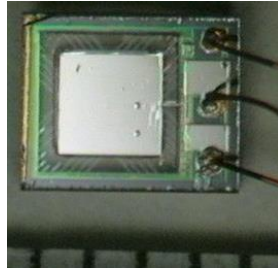
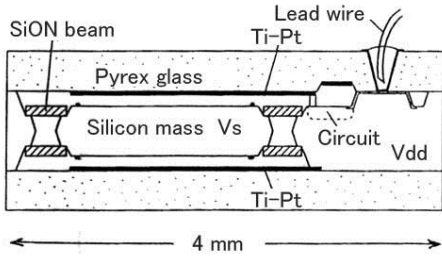
Example of edge detection using the parallel image processing



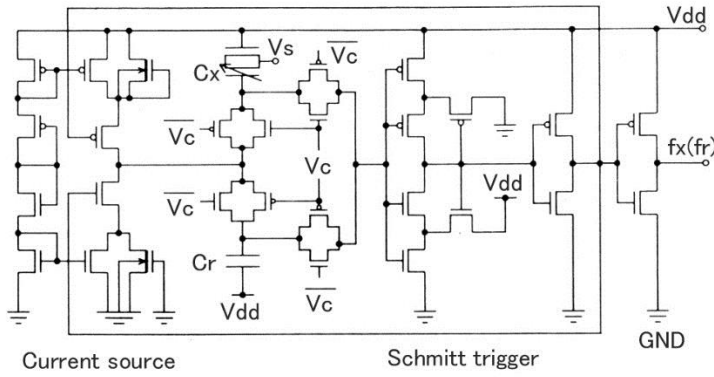
Parallel image processor using the barrel shifter IC (with DEC LSI-11) Integrated capacitive pressure sensor

(M. Esashi, T. Matsuo : Workstation for LSI Pattern Design Using Custom LSI, S.59 IECE Convention, 404 (1984) 67-74) (in Japanese)

(Y. Matsumoto and M. Esashi : An Integrated Capacitive Absolute Pressure Sensor, Electronics and Communications in Japan, Part 2, 76, 1 (1992) 93-106)



Internal voltage waveforms of a NMOS inverter circuit detected by conventional metal microprobe and micro probing head.



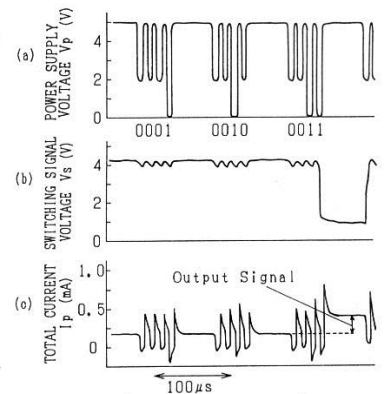
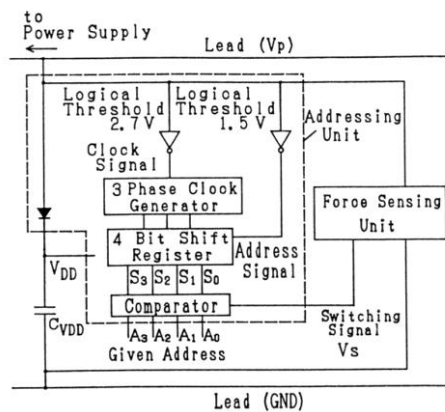
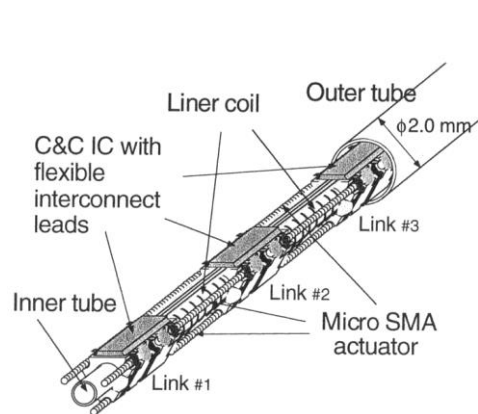
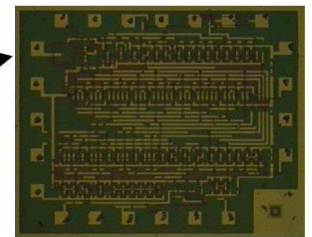
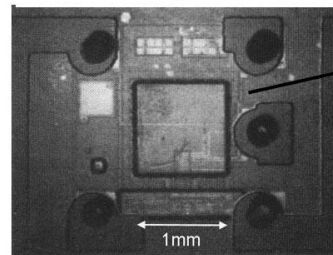
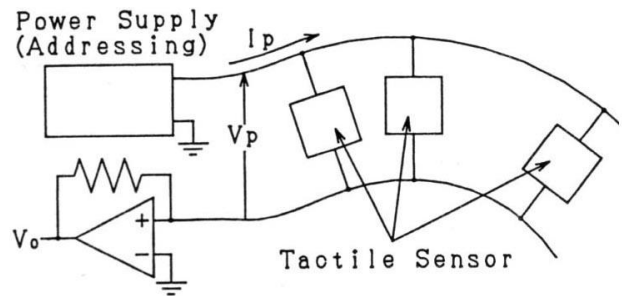
### Integrated capacitive accelerometer

(Y.Matsumoto and M.Esashi : Integrated Silicon Capacitive Accelerometer with PLL Servo Technique, Sensors and Actuators A, 39 (1993) 209-217)



### Integrated micro probing head

(S.Shoji, M.Esashi and T.Matsuo : Fabrication of an Integrated Micro Probing Head for Fault Analysis of MOS Integrated Circuits, Sensors & Actuators, 14 (1988) 125-132)



### Active catheter with IC for communication and control

(K.-T.Park and M.Esashi : A Multilink Active Catheter with Polyimide-Based Integrated CMOS Interface Circuits, IEEE J. of Microelectromechanical Systems, 8, 4 (1999) 349-357)

### Common two lead wires tactile sensor array

(S.Kobayashi, T.Mitsui, S.Shoji and M.Esashi : Two-Lead Tactile Sensor Array Using Piezoresistive Effect of MOS Transistor, Technical Digest of the 9<sup>th</sup> Sensor Symposium (1990)137-140)