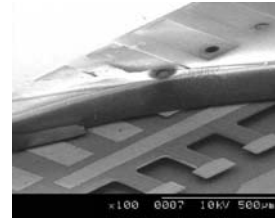
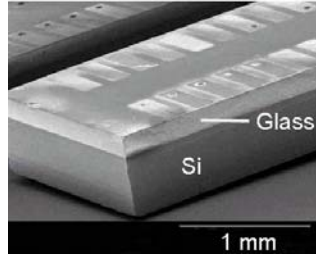
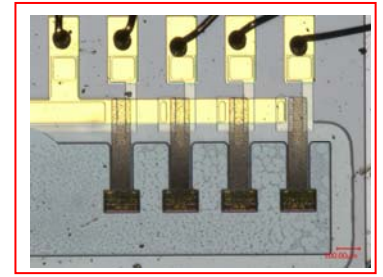
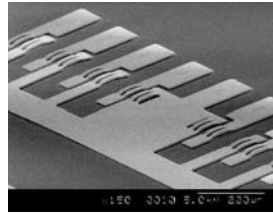
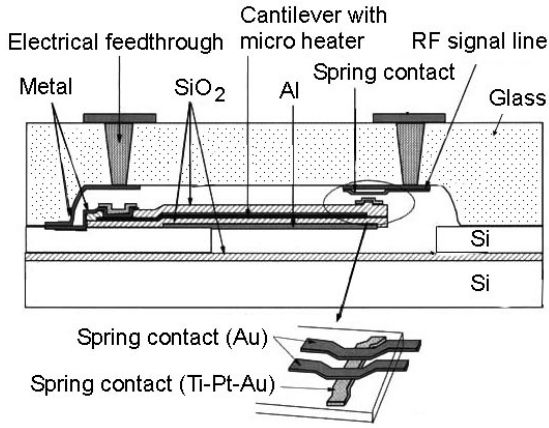
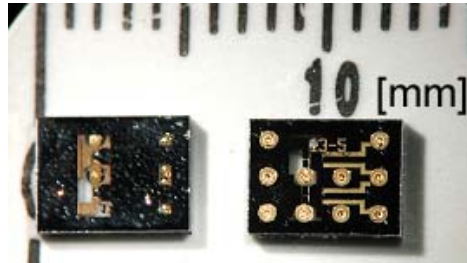
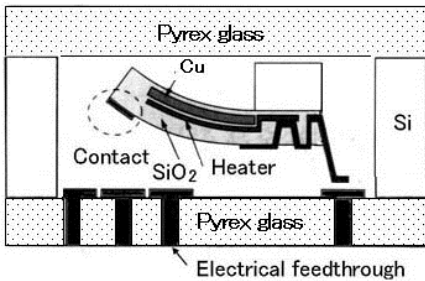


MEMS Switch (Thermal)



Thermal MEMS switch

Reference : Y.Liu, X.Li, T.Abe, Y.Haga and M.Esashi, A Thermomechanical Relay with Microspring Contact Array, Technical Digest IEEE Micro Electro Mechanical Systems'2001 (2001) pp.220-223



Advantages of conventional mechanical switch

- Immune to high voltage
- Excellent isolation at high frequency

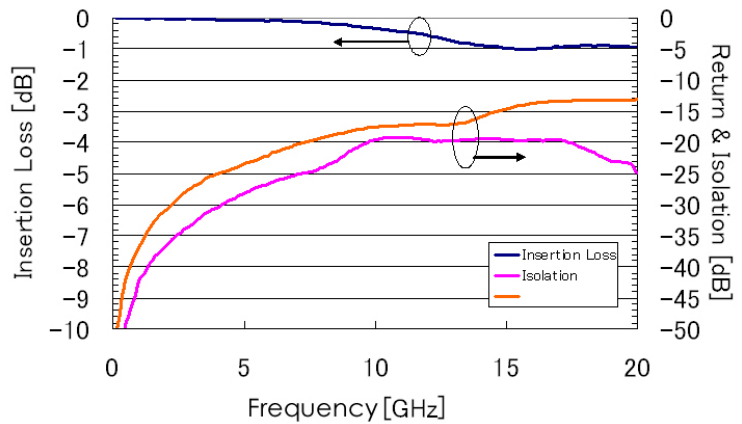
Advantages of small size and integration

- Wide frequency range

RF MEMS switch

- Immunity to electrostatic discharge : 1000V
- Frequency range : DC - 10GHz

Drive power	<160mW (6V)
On resistance	<0.3 Ω (initial)
Switching speed	<3ms
Contact life	8000 times (3V-15mA dry)



SoI test system T2000



LSI tester using the thermal MEMS switch and Advantest component producing the MEMS switch in Sendai

Reference : K.Nakamura, F.Takayanagi, Y.Moro, H.Sanpeo, M.Onozawa and M.Esashi : Development of RF MEMS switch, Advantest Technical Report, 22 (2004) pp.9-16