Electrostatically actuated mirror array is fabricated on CMOS chip for video projectors and digital cinema. Binary pulse width modulation called DLP (Digital Light Processing) is used for gray scale sensation. Amorphous metal of Al₃Ti is used for the hinge to solve the fatigue.



A1

Principle of the movable mirror



Photograph of the mirror array



Video projector (Engine in 1995 exhibited)



DMD process flow



Digital cinema



DLP Pico projector for mobile use (exhibited)

References : P.F.Van Kessel, L.J.Hornbeck, R.E.Meier and M.R.Douglass: A MEMS-based projection display, Proc. of the IEEE, 86, 8 (1998) 1687–1704 DLP (no.1— no.6), Nikkei Electronics, 2005.2.28 - 2005.5.9 (in Japanese)

http://www.dlp.com/jp/

Display : DMD wafer, Packaged DMD chip, Prototype engine (Video projector) (1995-1996)