

MICRO-ELECTRO-MECHANICAL SYSTEMS (MEMS)

Xerox Corporation & Palo Alto Research Center Incorporated

Initial Bidding Guidance: Low 6 Figures

With priority dates from 2002, the disclosed portfolio provides methods and systems in optical MEMS switch technology that include:

1. Method for providing an improved bistable MEMS-based system comprising a micromachined beam having a first stable state that is substantially stress-free and a specified non-linear shape (e.g., a simple or compound curve), and second stable state, that provide solutions to the problems associated with conventional bistable beams. [6,828,887 & 7,070,699]
2. An MxN cantilever beam optical wavelength switch that utilizes a latching mechanism in association with a thermal drive actuator to align the cantilever beam platform, and may be integrated with other optical components to form planar light circuits, which when coupled on single chip, enable the fabrication of less-expensive, compact, higher-functioning devices (e.g., Reconfigurable Optical Add-Drop Multiplexer or ROADMs). [6,904,191] The latching mechanisms may also include "hook" hitch and latch teeth [6,947,624] or in-plane hitch and latch with a waveguide shuttle. [6,968,100]
3. Method for providing a cantilever beam optical switch that provides the function of a Variable Optical Attenuator (VOA), requiring a small degree of intentional misalignment of the waveguide to create different levels of optical attenuation. The MEMS device utilizes a latching mechanism in association with a thermal drive actuator to align the cantilever beam platform. By integrating the switching and VOA functions to reduce optical loss, the resultant device corrects the difference in optical intensity inherent in the fabrication of array waveguide gratings. [6,980,7272 & 7242825]
4. Method for the application of electrical stimuli to one or more released current carrying elements mounted above a supporting substrate of an optical MEMS device, in which the stimuli bias minimizes electrical potential difference between the current and non-current carrying elements. [7,796,847]
5. Method for a MEMS beam switch that is electro-thermally deflected or buckled by compressing a substantially straight beam in an unbuckled state using an adjustable compressor, which applies force to one or both ends of the beam and limits compression on the beam to allow the beam to move between a first buckled or a second unbuckled state. [7,221,817 & 7,450,797]

Forward Citing Companies: Agiltron, Ahura Scientific, Alcatel-Lucent, Canon, IBM, Tessera Technologies

Priority Date: 05-10-2002

Representative Claim: US 6,904,191 – Claim #1

A micro-electro-mechanical system optical switch, comprising: a cantilever beam optical switch associated with a plurality of optical waveguides formed on a flexible cantilever beam for switching optical states.

Contact:

For more information on the assets available for sale in this portfolio, contact Paul Greco.

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TECHNOLOGY

SEMICONDUCTORS;
MEMS

NOVELTY

HIGH-QUALITY MICRO-ELECTRO-MECHANICAL SYSTEMS (MEMS) DEVICES IN OPTICAL NETWORKS

IMPORTANCE

A VALUABLE PORTFOLIO FOR COMPANIES PROVIDING NETWORK HARDWARE, OPTICAL NETWORK INFRASTRUCTURE, AND COMMUNICATION SOLUTIONS

NUMBER OF ASSETS

25

PATENTS (25)

US 6,828,887
US 6,904,191
US 6,947,624
US 6,968,100
US 6,980,727
US 7,070,699
US 7,221,817
US 7,242,825
US 7,450,797
US 7,796,847
CA 2460765
CA 2461327
CN 200510091476.1
DE 602004015521.7
DE 602004017661.3
EP 1460462
EP 1460463
FR 1460462
FR 1460463
GB 1460462
GB 1460463
JP 4446159
JP 4476649
JP 5110781
JP 5138144