

Passive Grating Modulator



Overview

These modulators operate at ultrahigh frequencies in the hundred kHz range, and their micromirror-free configuration simplifies the fabrication process and reduces costs compared to micromirror-based modulators. However, these modulators are limited in their optical. This Micro-Electro-Mechanical (MEMS) Grating Modulator, manufactured by our strategic partner Boston Micromachines Corporation, has controllable groove depth which modulates intensity. The operating principle of the GLM is introduced in this paper. 1 Introduction to Grating Light Modulators In Chapter 9 we described the optical properties of mirror arrays and demonstrated that phase modulation is preferable to amplitude modulation for many applications. This grating-assisted Michelson (GAMI) modulator can operate as either an intensity or amplitude. Microelectromechanical system (MEMS) grating modulators enable versatile beam steering functions through the electrostatic actuation of movable ribbons.

Article Content

Electromechanical Characteristic Analysis of Passive Matrix ...

In order to improve the working performance of the GLM, the electromechanical characteristics of passive matrix addressing need to be analyzed. This paper introduces the ...

A MEMS grating modulator with a tunable sinusoidal ...

Here, we report a MEMS grating modulator with a notably large aperture and a high optical efficiency that benefits from the adoption of a tunable ...

MEMS Grating Modulator

The modulator has a frequency range of up to 200 kHz with full modulation and higher speeds with partial modulation. Use the modulator to replace a pockels cell or as a substitute for an acousto-optic ...

Compact PIN-Diode-Based Silicon Modulator Using Side-Wall-Grating ...

We developed PIN-diode-based silicon Mach-Zehnder modulators, which have side-wall-gratings in the phase-shifter sections. Such passive waveguides with gratings were fabricated using ...

A MEMS grating modulator with a tunable sinusoidal grating for large ...

Here, we present a MEMS grating modulator with a notably extendable aperture and a high optical efficiency that benefits from the adoption of a tunable sinusoidal grating.

Electromechanical Characteristic Analysis of Passive Matrix ...

A Grating Light Modulator (GLM) based on Micro-Electro-Mechanical Systems (MEMS) is applied in projection display. The operating principle of the GLM is introduced in this paper.

Linearized Bragg grating assisted electro-optic modulator

This grating-assisted Michelson (GAMI) modulator can operate as either an intensity or amplitude modulator, and is shown to significantly improve the linearity of microwave photonics links.

Electromechanical Characteristic Analysis of Passive Matrix ...

A Grating Light Modulator based on Micro-Electro-Mechanical Systems (MEMS) is applied in projection display and the electromechanical characteristic of the passive matrix addressing GLM is studied.

10: Grating Light Modulators

We have used it to explain the differences between the basic grating modulator and the high-contrast grating modulator, and we will use it again to explain the dispersive characteristics of more complex ...

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