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(54) Title: OPTICAL WAVEGUIDE STRUCTURE

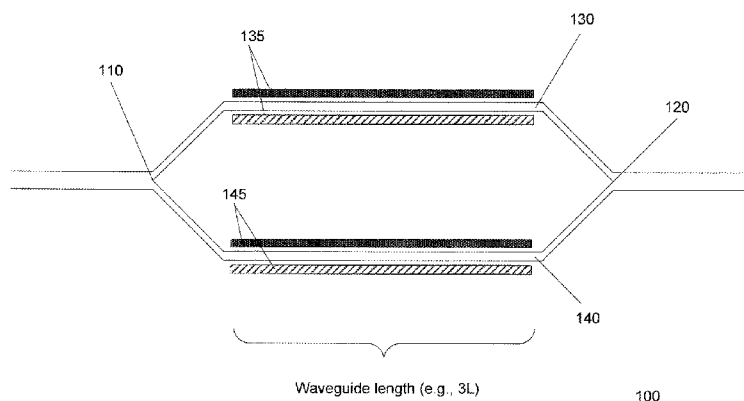


FIG. 1
(Prior Art)

(57) Abstract: Embodiments of the invention describe a multi-segment optical waveguide that enables an optical modulator to be low-power and athermal by decreasing the device length needed for a given waveguide length. Embodiments of the invention describe an optical waveguide that is folded onto itself, and thus includes at least two sections. Thus, embodiments of the invention may decrease the device size of a modulator by at least around a factor of two if the device is folded twofold (device size may be further reduced if the modulator is folded threefold, fourfold, five-fold, etc.). Embodiments of the invention further enable the electrode length required to create the desired electro-optic effect for the multi-segment optical waveguide to be reduced. In embodiments of the invention, certain electrodes may be "shared" amongst the different segments of the waveguide, thereby reducing the power requirement and capacitance of a device having a waveguide of a given length.



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INTERNATIONAL SEARCH REPORT

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PCT/US2012/031187**A. CLASSIFICATION OF SUBJECT MATTER****G02B 6/122(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G02B 6/122; G02B 6/26; G02F 1/035; G02B 6/12

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: optical, waveguide, electrode

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003-0138180 A1 (ATSUO KONDO et al.) 24 July 2003 See abstract, paragraphs [0028]-[0032], [0035]-[0036] and figures 3, 5.	1,7
A	US 2009-0142015 A1 (IDE AKIYOSHI et al.) 04 June 2009 See paragraphs [0051], [0057], [0064], claim 1 and figures 2, 4.	1-19
A	US 06128424 A (GAMPP; LORRIE L. et al.) 03 October 2000 See abstract, columns 3-4, claim 1 and figures 1-2.	1-19

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

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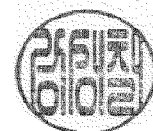
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Information on patent family members

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