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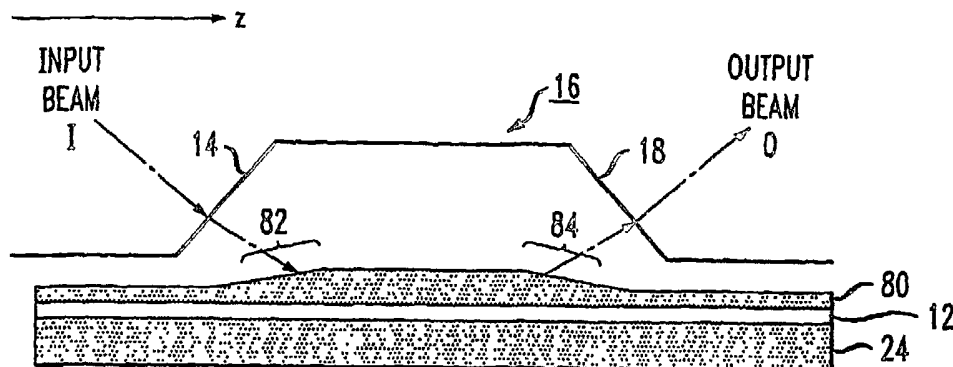
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— as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,

[Continued on next page]

(54) Title: ARRANGEMENTS FOR REDUCING WAVELENGTH SENSITIVITY IN PRISM-COUPLED SOI-BASED OPTICAL SYSTEMS



(57) Abstract: An optical coupling system for use with multiple wavelength optical signals provides improved coupling efficiency between a free-space optical beam and a relatively thin, surface layer of an SOI structure ("SOI layer"), allowing for sufficient coupling efficiency (greater than 50%) over a predetermined wavelength range. An evanescent coupling layer, disposed between a coupling prism and an SOI layer, is particularly configured to improve the coupling efficiency. In one embodiment, the thickness of the evanescent layer is reduced below an optimum value for a single wavelength, the reduced thickness improving coupling efficiency over a predetermined wavelength range around a defined center wavelength. Alternatively, a tapered thickness evanescent coupling layer may be used to improve coupling efficiency (or a combination of reduced thickness and tapered configuration). Optical beam steering can be combined with a modified evanescent coupling layer to control the input beam launch angle and further improve coupling efficiency.

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B. FIELDS SEARCHED

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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A,E	US 6,826,320 B2 (DELIWALA) 30 November 2004 (30.11.2004), see entire document.	1-62
A,E	US 6,671,443 B2 (DELIWALA) 30 December 2003 (30.12.2003), see entire document.	1-62
A	US 2003/0013304 A1 (DELIWALA) 16 January 2003 (16.01.2003), see entire document.	1-62
A	US 2003/0032286 A1 (DELIWALA et al) 13 February 2003 (13.02.2003), see entire document.	1-62
A	US 2003/0040175 A1 (DELIWALA) 27 February 2003 (27.02.2003), see entire document.	1-62
A	US 2003/0118306 A1 (DELIWALA) 26 June 2003 (26.06.2003), see entire document.	1-62
A	US 2002/0021765 A1 (MALEKI et al) 21 February 2002 (21.02.2002), see entire document.	1-62
A	US 2002/0097401 A1 (MALEKI et al) 25 July 2002 (25.07.2002), see entire document.	1-62
A,E	US 2004/0190826 A1 (GHIRON et al) 30 September 2004 (30.09.2004), see entire document.	1-62

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C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A,E	US 2004/0202418 A1 (GHIRON et al) 14 October 2004 (14.10.2004), see entire document.	1-62
A,E	US 2004/0213518 A1 (GHIRON et al) 28 October 2004 (28.10.2004), see entire document.	1-62