



- (51) **International Patent Classification:**
H01L 21/762 (2006.01) *H01L 21/84* (2006.01)
G02B 6/12 (2006.01)
- (21) **International Application Number:**
PCT/US2013/043347
- (22) **International Filing Date:**
30 May 2013 (30.05.2013)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
13/487,573 4 June 2012 (04.06.2012) US
- (71) **Applicant:** MICRON TECHNOLOGY, INC. [US/US];
8000 S. Federal Way, Boise, ID 83716-9632 (US).
- (72) **Inventor; and**
- (71) **Applicant :** MEADE, Roy [US/US]; 5621 So. Cliffs
Edge Avenue, Boise, ID 83716 (US).
- (74) **Agent:** D'AMICO, Thomas, J.; Dickstein Shapiro LLP,
1825 Eye Street, NW, Washington, DC 20006-5403 (US).
- (81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,

BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

- (84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(54) **Title:** METHOD AND STRUCTURE PROVIDING OPTICAL ISOLATION OF A WAVEGUIDE ON A SILICON-ON-INSULATOR SUBSTRATE

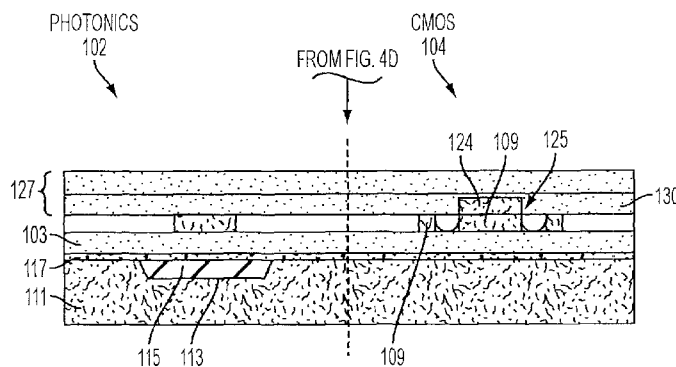


FIG. 4E

(57) **Abstract:** Disclosed are a method and structure providing a silicon-on-insulator substrate on which photonic devices are formed and in which a core material of a waveguide is optically decoupled from a support substrate by a shallow trench isolation region.