

Title (en)

METHOD FOR PRODUCING AN ELECTRO-OPTICAL DEVICE, AND ELECTRO-OPTICAL DEVICE

Title (de)

VERFAHREN ZUR HERSTELLUNG EINER ELEKTRO-OPTISCHEN EINRICHTUNG UND ELEKTRO-OPTISCHE EINRICHTUNG

Title (fr)

PROCÉDÉ DE FABRICATION D'UN DISPOSITIF ÉLECTRO-OPTIQUE ET DISPOSITIF ÉLECTRO-OPTIQUE

Publication

EP 4097765 A1 20221207 (DE)

Application

EP 20839263 A 20201217

Priority

- DE 102020102533 A 20200131
- EP 2020086611 W 20201217

Abstract (en)

[origin: CA3168436A1] The present application relates to a method for producing an electro-optical device, in particular a photodetector (6) or an electro-optical modulator (6), wherein a waveguide (3) is provided (S1), a planarization layer (7) extending over at least one section of the waveguide (3) is produced (S2), preferably, by a procedure in which a coating material is applied, the planarization layer (7) is provided (S3) with a spin-on glass coating (9), a preferably dry-chemical etching treatment is effected at least in the region of the spin-on glass coating (9), optionally the steps of providing the planarization layer (7) with a spin-on glass coating (9) and etching treatment are repeated (S5, S6) at least once, and on or above the planarization layer (7) and above the waveguide (3) an active element (10) is provided (S7), which comprises at least one material or consists of at least one material which absorbs electromagnetic radiation of at least one wavelength and generates an electrical photosignal on account of the absorption, and/or the refractive index of which changes depending on a voltage and/or the presence of charge(s) and/or an electric field.

IPC 8 full level

H01L 31/0232 (2014.01); **G02B 6/12** (2006.01); **G02B 6/136** (2006.01); **G02F 1/025** (2006.01); **H01L 31/028** (2006.01); **H01L 31/112** (2006.01)

CPC (source: EP KR US)

G02B 6/136 (2013.01 - KR); **G02F 1/025** (2013.01 - US); **G02F 1/035** (2013.01 - US); **G02F 1/2257** (2013.01 - US); **H01L 21/31055** (2013.01 - EP KR US); **H01L 31/02327** (2013.01 - EP KR); **H01L 31/028** (2013.01 - EP KR); **H01L 31/112** (2013.01 - EP KR); **G02B 6/136** (2013.01 - EP); **G02B 2006/12097** (2013.01 - EP KR); **G02B 2006/12138** (2013.01 - EP KR); **G02B 2006/12142** (2013.01 - EP KR); **G02B 2006/12166** (2013.01 - EP KR); **G02B 2006/12176** (2013.01 - EP KR); **G02F 1/025** (2013.01 - EP)

Citation (search report)

See references of WO 2021151584A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

DE 102020102533 A1 20210805; CA 3168436 A1 20210805; CN 115023817 A 20220906; EP 4097765 A1 20221207; JP 2023512092 A 20230323; KR 20220133876 A 20221005; US 2023117534 A1 20230420; WO 2021151584 A1 20210805

DOCDB simple family (application)

DE 102020102533 A 20200131; CA 3168436 A 20201217; CN 202080094961 A 20201217; EP 2020086611 W 20201217; EP 20839263 A 20201217; JP 2022546653 A 20201217; KR 20227024504 A 20201217; US 202017796357 A 20201217