

Title (en)
FUNCTIONAL ELEMENT HAVING ELECTRICALLY CONTROLLABLE OPTICAL PROPERTIES

Title (de)
FUNKTIONSELEMENT MIT ELEKTRISCH STEUERBAREN OPTISCHEN EIGENSCHAFTEN

Title (fr)
ÉLÉMENT FONCTIONNEL DOTÉ DE PROPRIÉTÉS OPTIQUES POUVANT ÊTRE COMMANDÉES ÉLECTRIQUEMENT

Publication
EP 4136502 A1 20230222 (DE)

Application
EP 21717117 A 20210414

Priority
• EP 20169849 A 20200416
• EP 2021059600 W 20210414

Abstract (en)
[origin: WO2021209474A1] The present invention relates to a functional element (5) having electrically controllable optical properties, having a plurality of side edges (4.1, 4.2, 4.3, 4.4), and at least comprising a stacking order consisting of a first carrier film (14), a first planar electrode (12) which is divided into at least two segments (17) by means of at least one isolation line (16), an active layer (11), a second planar electrode (13), and a second carrier film (15), wherein, on a first side edge (4.1) in a first region, the second carrier film (15), the second planar electrode (13) and the active layer (11) have a first offset (20) and, in a second region, the first carrier film (14), the first planar electrode (12) and the active layer (11) have a second offset (21), a group of first busbars (18) electrically conductively contacts the first planar electrode (12) and each segment (17) of the first planar electrode (12) is electrically conductively contacted by a busbar from the group of the first busbars (12), at least a second busbar (19) electrically conductively contacts the second planar electrode (13), the first busbars (18), in a through-view, are situated in the region of the first offset (20) on the first planar electrode (12) so as to be adjacent to one another in a row, wherein the first busbars (18) are electrically isolated from one another by the at least one isolation line (16), and the at least one second busbar (19), in a through-view, is situated in the region of the second offset (21) on the second planar electrode (13).

IPC 8 full level
G02F 1/1345 (2006.01); **B32B 17/10** (2006.01); **B60J 3/04** (2006.01); **G02F 1/1333** (2006.01); **G02F 1/137** (2006.01); **G02F 1/155** (2006.01)

CPC (source: CN EP KR US)
B32B 3/085 (2013.01 - CN); **B32B 17/10036** (2013.01 - EP KR); **B32B 17/10192** (2013.01 - EP KR); **B32B 17/10348** (2013.01 - EP); **B32B 17/10495** (2013.01 - EP KR); **B32B 17/10504** (2013.01 - EP KR); **B32B 17/1055** (2013.01 - CN); **B32B 17/10761** (2013.01 - EP KR); **B32B 17/1077** (2013.01 - EP KR); **B32B 17/10788** (2013.01 - EP KR); **B32B 27/42** (2013.01 - CN); **B32B 33/00** (2013.01 - CN); **B60J 3/04** (2013.01 - KR); **B60K 35/00** (2013.01 - US); **G02F 1/1334** (2013.01 - US); **G02F 1/13439** (2013.01 - US); **G02F 1/137** (2013.01 - EP KR); **G02F 1/13775** (2021.01 - KR); **G02F 1/15** (2013.01 - EP KR); **G02F 1/155** (2013.01 - EP KR); **B60J 3/04** (2013.01 - EP); **B60K 35/60** (2024.01 - US); **B60K 2360/25** (2024.01 - US); **B60K 2360/771** (2024.01 - US); **B60K 2360/785** (2024.01 - US); **G02F 1/13775** (2021.01 - EP); **G02F 2001/1555** (2013.01 - EP KR)

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)
WO 2021209474 A1 20211021; CN 114072281 A 20220218; CN 114072281 B 20231020; EP 4136502 A1 20230222; JP 2023523567 A 20230606; JP 7455230 B2 20240325; KR 20220165757 A 20221215; US 11820227 B2 20231121; US 2023103913 A1 20230406

DOCDB simple family (application)
EP 2021059600 W 20210414; CN 202180002004 A 20210414; EP 21717117 A 20210414; JP 2022562526 A 20210414; KR 20227038949 A 20210414; US 202117914693 A 20210414