

Title (en)

METHOD OF MAKING SOLID ELEMENTS USING LASER TREATMENT AND TEMPERATURE-INDUCED TENSIONS

Title (de)

HERSTELLUNGSVERFAHREN FÜR FESTKÖRPERELEMENTE MITTELS LASERBEHANDLUNG UND TEMPERATURINDUZIERTEN SPANNUNGEN

Title (fr)

PROCÉDÉ DE FABRICATION DES ELEMENTS SOLIDES PAR UTILISATION DE TRAITEMENT LASER ET TENSIONS PROVOQUÉES PAR TEMPÉRATURE

Publication

EP 3055099 A1 20160817 (DE)

Application

EP 14790526 A 20141008

Priority

- DE 102013016693 A 20131008
- EP 2014071507 W 20141008

Abstract (en)

[origin: WO2015052217A1] The invention relates to a method for manufacturing solid state elements (40), in particular substrate elements for receiving electroconductive components. The method comprises at least the following steps: providing a solid state element (2) from which at least one solid state layer (4) is to be separated, generating a first group of defects by means of a laser (18), in order to create a first detachment plane (8), along which the solid state layer (4) is separated from the solid state element (2), generating a second group of defects by means of the laser (18) in order to create at least one second detachment plane (50), the first detachment plane (8) and the second detachment plane (8) being orthogonal to each other, detaching the solid state layer (4) from the solid state element (2) along the first detachment plane (8), as a result of the generation of stresses in the solid state element (2), and separating the solid state layer (4) along the second detachment plane (50) into the individual solid state elements (40).

IPC 8 full level

H01L 21/78 (2006.01); **B23K 26/40** (2014.01); **B23K 26/53** (2014.01); **B28D 5/00** (2006.01); **H01L 21/268** (2006.01); **H01L 31/18** (2006.01); **B23K 103/00** (2006.01)

CPC (source: EP)

B23K 26/0006 (2013.01); **B23K 26/53** (2015.10); **B28D 5/0011** (2013.01); **H01L 21/268** (2013.01); **H01L 21/7806** (2013.01); **H01L 31/1896** (2013.01); **B23K 2101/40** (2018.07); **B23K 2103/50** (2018.07)

Citation (search report)

See references of WO 2015052217A1

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

DOCDB simple family (publication)

DE 102013016693 A1 20150409; EP 3055099 A1 20160817; EP 3608048 A1 20200212; EP 3608048 B1 20210428; WO 2015052217 A1 20150416

DOCDB simple family (application)

DE 102013016693 A 20131008; EP 14790526 A 20141008; EP 19201099 A 20141008; EP 2014071507 W 20141008