Title (en)

METHOD AND DEVICE FOR THE THERMAL TREATMENT OF SUBSTRATES AND HOLDING UNIT FOR SUBSTRATES

Title (de)

VERFAHREN UND VORRICHTUNG ZUM THERMISCHEN BEHANDELN VON SUBSTRATEN SOWIE AUFNAHMEEINHEIT FÜR SUBSTRATE

Title (fr)

PROCÉDÉ ET DISPOSITIF DE TRAITEMENT THERMIQUE DE SUBSTRATS ET UNITE DE RÉCEPTION DE SUBSTRATS

Publication

EP 3387670 A1 20181017 (DE)

Application

EP 16805443 A 20161202

Priority

- DE 102015016002 A 20151210
- EP 2016079628 W 20161202

Abstract (en)

[origin: WO2017097680A1] The invention relates to a method and to a device for the thermal treatment of substrates, in particular semiconductor wafers, and to a holding unit for substrates. In the method, in a process unit having a process chamber and having a plurality of radiation sources, one or more substrates are held in a box having a lower part and having a cover, wherein the lower part and the cover form a holding space for the substrate therebetween. Furthermore, the following steps are performed in the method: loading the box and the substrate into the process chamber and closing the process chamber; purging the holding space of the box with a purging gas and/or a process gas before the box and the substrate contained therein are heated to a desired process temperature in order to establish a desired atmosphere inside the box; and heating the box and the substrate contained therein to the desired process temperature by means of thermal radiation emitted by the radiation sources. The holding unit for substrates is designed to support the substrates in a process unit having a process chamber and having a plurality of radiation sources. The holding unit has a lower part and a cover, which form a box therebetween in the closed state, said box having a holding space for the substrate, wherein at least one of the parts has a plurality of purging openings, which connect a periphery of the box to the holding space in order enable the purging of the holding space in the closed state of the box, wherein the purging openings are designed in such a way that the purging openings substantially prevent the passage of thermal radiation of the radiation sources.

IPC 8 full level

H01L 21/67 (2006.01); **F27B 17/00** (2006.01); **F27D 5/00** (2006.01); **H01L 21/324** (2006.01); **H01L 21/687** (2006.01); **H01L 33/00** (2010.01)

CPC (source: EP KR US)

F27B 17/0025 (2013.01 - EP KR US); **F27D 5/0037** (2013.01 - EP KR US); **H01L 21/67115** (2013.01 - EP KR US); **H01L 21/68742** (2013.01 - EP KR US); **H01L 21/6875** (2013.01 - EP KR US); **H01L 21/68785** (2013.01 - EP KR US)

Citation (search report)

See references of WO 2017097680A1

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 102015016002 A1 20170614; CN 108701629 A 20181023; EP 3387670 A1 20181017; JP 2019504510 A 20190214; KR 20180090370 A 20180810; TW 201730968 A 20170901; US 2018366352 A1 20181220; WO 2017097680 A1 20170615

DOCDB simple family (application)

DE 102015016002 A 20151210; CN 201680081458 A 20161202; EP 16805443 A 20161202; EP 2016079628 W 20161202; JP 2018549397 A 20161202; KR 20187019602 A 20161202; TW 105140523 A 20161208; US 201616061034 A 20161202