

Title (en)
SYSTEM FOR THINNING A SEMICONDUCTOR WORKPIECE

Title (de)
SYSTEM ZUM VERDÜNNEN EINES HALBLEITERWERKSTÜCKS

Title (fr)
SYSTEME D'AMINCISSEMENT DE PIECES DE SEMI-CONDUCTEUR

Publication
EP 1799446 A4 20100303 (EN)

Application
EP 05789099 A 20050818

Priority

- US 2005029598 W 20050818
- US 92343604 A 20040820
- US 92276204 A 20040820
- US 92313204 A 20040820
- US 92336304 A 20040820

Abstract (en)
[origin: WO2006023753A2] The present invention provides a system for use in processing semiconductor workpieces. A new apparatus and method allows for the production of thinner workpieces that at the same time remain strong. Particularly, a chuck is provided that includes a body, a retainer removeably attached to the body and a seal forming member. When a workpiece is placed on the chuck body and the retainer is engaged to the body, a peripheral portion of the back side of the workpiece is covered by the retainer while an interior region of the back side of the workpiece is exposed. The exposed back side of the workpiece is then subjected to a wet chemical etching process to thin the workpiece and form a relatively thick rim comprised of semiconductor material at the periphery of the workpiece. The thick rim or hoop imparts strength to the otherwise fragile, thinned semiconductor workpiece. The present invention provides for single workpiece thinning or thinning a batch of workpieces. Semiconductor workpieces made according to the present invention offer an improved structure for handling thinned wafers in conventional automated equipment. This results in improved yields and improved process efficiency.

IPC 8 full level
B32B 9/04 (2006.01); **B32B 13/04** (2006.01); **C23F 1/00** (2006.01); **H01L 21/302** (2006.01); **H01L 21/36** (2006.01); **H01L 21/461** (2006.01)

CPC (source: EP KR)
H01L 21/00 (2013.01 - KR); **H01L 21/02035** (2013.01 - EP); **H01L 21/304** (2013.01 - KR); **H01L 21/306** (2013.01 - KR);
H01L 21/67126 (2013.01 - EP); **H01L 21/6719** (2013.01 - EP); **H01L 21/68721** (2013.01 - EP); **H01L 21/78** (2013.01 - EP)

Citation (search report)

- [X] US 2003215985 A1 20031120 - KOUNO YASUHIKO [JP], et al
- [X] US 2003119281 A1 20030626 - SUZUKI MIKIMASA [JP], et al
- [X] US 4266334 A 19810512 - EDWARDS THOMAS W, et al
- [X] EP 1061584 A2 20001220 - INTERSIL CORP [US]
- [X] JP H0684731 A 19940325 - KYUSHU NIPPON ELECTRIC
- [X] FR 2024961 A1 19700904 - PHILIPS NV
- See references of WO 2006023753A2

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
WO 2006023753 A2 20060302; WO 2006023753 A3 20090625; AT 10874 U1 20091115; CN 102790000 A 20121121;
CN 102790000 B 20160629; DE 212005000047 U1 20070802; EP 1799446 A2 20070627; EP 1799446 A4 20100303;
JP 2008511141 A 20080410; KR 20070048793 A 20070509; KR 20070051337 A 20070517; TW 200614329 A 20060501;
TW 201230144 A 20120716; TW I463527 B 20141201; TW I502620 B 20151001

DOCDB simple family (application)
US 2005029598 W 20050818; AT 90042005 U 20050818; CN 201210101297 A 20050818; DE 212005000047 U 20050818;
EP 05789099 A 20050818; JP 2007528050 A 20050818; KR 20077006237 A 20070319; KR 20077006971 A 20070327;
TW 101109367 A 20050819; TW 94128423 A 20050819