

SEARCH HISTORY

Application Number	PCT/US 18/48623
Search Conducted By	TCT
Search Approved By	SV

CPC/IPC Classifications Searched	IPC - H01L2 1/673 (2018.01) CPC - H01L 21/67373, H01L2 1/67379, H01L2 1/67772
Date Conducted	10 December 2018 – 10 December 2018 (10.12.2018 – 10.12.2018)

Documentation Searched	CPC - H01L 21/67373, H01L2 1/67379, H01L2 1/67772
Search Terms Used	semiconductor wafer separator, semiconductor wafer, semiconductor, wafer, separator, interleaver, ring, circle, circular, ring, edge, wall, space, spacing, gap, void, interlock, nesting, stacking, protrusion, recess, notch, opening, coplanar, even, flat, flush, level, polyethylene, right-angle, 90 degree, carry, carrier
Date Conducted	10 December 2018 – 10 December 2018 (10.12.2018 – 10.12.2018)

Electronic Database Searched	PatBase
Files Searched	Full-text: AU BE BR CA CH CN DE DK EP ES FI FR GB IN JP KR SE TH TW US WO Bibliographic: (Europe) AT BA BE BG CH CS CY CZ DD DK EE ES FI GE GR HR HU IE IS IT LT LU LV MC MD MT NL NO PL PT RO RS SE SI SK SM TR UA YU (Asia) EA GC HK ID IL IN KZ MN MY PH RU SG SU TH TJ TW UZ VN (North America) CA CR CU DO GT HN MX NI PA SV TT (South America) AR BR CL CO EC PE UY (Australasia) AU NZ (Africa) AP DZ EG KE MA MW OA ZA ZM ZW
Date Conducted	10 December 2018 – 10 December 2018 (10.12.2018 – 10.12.2018)

Search Logic:

Classification-Based Search

1) IC = (H01L21/673) (11687)

- 2) CPC = (H01L21/67373 OR H01L21/67379 OR H01L21/67772) (1606)
- 3) 1 OR 2 (12565)
- 4) 3 and SP = ((semiconductor% NEAR wafer%) AND (separat* OR interlea*)) (469)
- 5) 4 and FT = (ring% OR circle OR circular) (262)
- 6) 5 and FT = (edge% AND wall%) (126)
- 7) 6 and FT = (space% OR spacing OR gap% OR void%) (121)
- 8) 7 and FT = (interlock* OR nest* OR stack*) (66)
- 9) 8 and SP = (protru* AND (recess* OR notch* OR opening%)) (17)
- 10) 9 and FT = (coplanar OR even OR flat OR flush OR level) (15)
- 11) 10 and FT = (polyethylene) (4)

Keyword-Based Search

- 12) FT = "semiconductor% wafer% separator%" (3)
- 13) SP = (("semiconductor% wafer%") NEAR (separat* OR interlea*)) (3666)
- 14) 13 and FT = (ring% OR circle OR circular) (1575)
- 15) 14 and (edge% AND wall%) (366)
- 16) 15 and FT = (space% OR spacing OR gap% OR void%) (324)
- 17) 16 and FT = (interlock* OR nest* OR stack*) (175)
- 18) 17 and SP = (protru* AND (recess* OR notch* OR opening%)) (29)
- 19) 18 and FT = (coplanar OR even OR flat OR flush OR level) (28)
- 20) 19 and FT = polyethylene (5)
- 21) 20 NOT 11 (4)
- 22) SP = ((semiconductor% NEAR wafer%) AND (separat* OR interlea*)) (21814)
- 23) 22 and FT = (interlock* OR nest* OR stack*) (7112)
- 24) 23 and FT = (ring% OR circle OR circular) (3253)
- 25) 24 and FT = (space% OR spacing OR gap% OR void%) (2774)
- 26) 25 and SP = (protru* AND (recess* OR notch* OR opening%)) (354)
- 27) 26 and FT = ("right angle%" OR "90 degree%") (120)
- 28) 27 and FT = (coplanar OR even OR flat OR flush OR level) (120)
- 29) 28 and FT = (carry OR carrie*) (104)
- 30) 29 and FT = (polyethylene) (14)
- 31) 30 NOT 21 (10)

Forward/Backward Search

- 32) PN = (US20160365265 OR US20170178937 OR WO2016084882 OR US20140076774) (4)
- 33) CTB 32 and CTF 32 (1)

Electronic Database Searched	Google
Files Searched	Google Scholar (Articles excluding patents)
Date Conducted	10 December 2018 – 10 December 2018 (10.12.2018 – 10.12.2018)
Search Logic:	
"semiconductor wafer separator" No Results	

semiconductor wafer separator circular top bottom gap interlock notch gap protrusion
About 109 Results

semiconductor wafer separator circular top bottom gap interlock notch gap recess protrusion stack polyethylene
3 Results

semiconductor wafer separator circular cover ("right-angle" OR "90 Degrees") stack (even OR flush OR coplanar)
About 771 Results

semiconductor wafer separator circular cover ("right-angle" OR "90 Degrees") stack (even OR flush OR coplanar) carry protect gap
About 368 Results

semiconductor wafer separator circular cover ("right-angle" OR "90 Degrees") stack (even OR flush OR coplanar) carry protect gap polyethylene
About 56 Results

Electronic Database Searched	Google
Files Searched	Google Patents
Date Conducted	10 December 2018 – 10 December 2018 (10.12.2018 – 10.12.2018)
Search Logic:	

semiconductor wafer separator circular top bottom gap
About 28,768 Results

semiconductor wafer separator circular top bottom gap interlock notch gap protrusion
About 393 Results

semiconductor wafer separator circular top bottom gap interlock notch gap recess protrusion stack
About 129 Results

semiconductor wafer separator circular top bottom gap interlock notch gap recess protrusion stack polyethylene
About 49 Results

semiconductor wafer separator circular top bottom gap interlock notch gap recess protrusion stack polyethylene remove protective substrate cover
About 31 Results

semiconductor wafer separator circular cover ("right-angle" OR "90 Degrees") stack (even OR flush OR coplanar)
About 2,622 Results

semiconductor wafer separator circular cover ("right-angle" OR "90 Degrees") stack (even OR flush OR coplanar) carry protect gap

About 757 Results

"semiconductor wafer separator" circular cover ("right-angle" OR "90 Degrees") stack (even OR flush OR coplanar) carry protect gap
1 Result

"semiconductor wafer separator"
About 68 Results

Supplemental

Electronic Database Searched	Google patents
Date Conducted	12 December 2018 (12.12.2018)

"semiconductor wafer separator"
About 68 results

"semiconductor wafer separator" ring
About 32 results