

(12) 按照专利合作条约所公布的国际申请

(19) 世界知识产权组织
国际局



(10) 国际公布号
WO 2024/260329 A1

(43) 国际公布日
2024 年 12 月 26 日 (26.12.2024)

(51) 国际专利分类号:
C23C 14/35 (2006.01) *C23C 14/56* (2006.01)

(21) 国际申请号: PCT/CN2024/099762

(22) 国际申请日: 2024 年 6 月 18 日 (18.06.2024)

(25) 申请语言: 中文

(26) 公布语言: 中文

(30) 优先权:
202310745558.1 2023年6月21日 (21.06.2023) CN

(71) 申请人: 北京北方华创微电子装备有限公司 (BEIJING NAURA MICROELECTRONICS EQUIPMENT CO., LTD.) [CN/CN]; 中国北京市大兴区北京经济技术开发区文昌大道 8 号, Beijing 100176 (CN)。

(72) 发明人: 王磊 (WANG, Lei); 中国北京市大兴区北京经济技术开发区文昌大道 8 号, Beijing 100176 (CN)。李冰 (LI, Bing); 中国北京市大兴区北京经济技术开发区文昌大道 8 号, Beijing 100176 (CN)。李强 (LI, Qiang); 中国北京市大兴区北京经济技术开发区文昌大道 8 号, Beijing 100176 (CN)。胡烁鹏 (HU, Shuopeng); 中国北京市大兴区北京经济技术开发区文昌大道 8 号, Beijing 100176 (CN)。赵康宁 (ZHAO, Kangning); 中国北京市大兴区北京经济技术开发区文昌大道 8 号, Beijing 100176 (CN)。杨依龙 (YANG, Yilong); 中国北京市大兴区北京经济技术开发区文昌大道 8 号, Beijing 100176 (CN)。

(74) 代理人: 北京天昊联合知识产权代理有限公司 (TEE & HOWE INTELLECTUAL PROPERTY ATTORNEYS); 中国北京市东城区东长安街

(54) Title: SEMICONDUCTOR PROCESS APPARATUS AND PROCESS CHAMBER THEREOF

(54) 发明名称: 半导体工艺设备及其工艺腔室

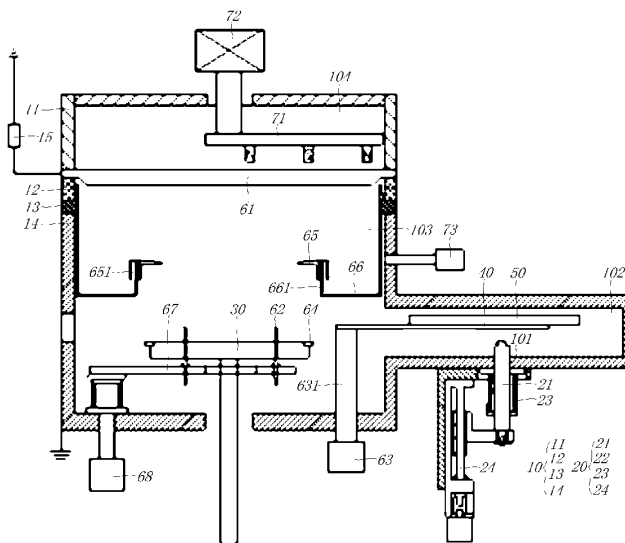


图 1

(57) Abstract: Disclosed in the present application is a process chamber of a semiconductor process apparatus. The process chamber comprises a cavity, a calibration mechanism, and a bearing seat, a tray and a shielding component which are arranged in the cavity, wherein the calibration mechanism is arranged on the cavity, and the shielding component can switch between a first position and a second position along with the tray. When the shielding component is located at the first position, the shielding component and the bearing seat are staggered, and the calibration mechanism can adjust the shielding component to a preset position on the tray; and

[见续页]

WO 2024/260329 A1

1 号东方广场东方经贸城西一办公楼 5 层
1, 6-12 室, Beijing 100738 (CN)。

- (81) 指定国(除另有指明, 要求每一种可提供的国家
保护): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG,
BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU,
CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ,
IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ,
LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN,
MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA,
PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD,
SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW。
- (84) 指定国(除另有指明, 要求每一种可提供的地区
保护): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ,
NA, RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW), 欧亚
(AM, AZ, BY, KG, KZ, RU, TJ, TM), 欧洲 (AL, AT, BE,
BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR,
HU, IE, IS, IT, LT, LU, LV, MC, ME, MK, MT, NL, NO,
PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF,
CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN,
TD, TG)。

本国际公布:
— 包括国际检索报告(条约第21条(3))。

when the shielding component is located at the preset position on the tray and the tray drives the shielding component to move to the second position, the shielding component is located above the bearing seat, and the spacing distance between the central axis of the shielding component and the central axis of the bearing seat is less than or equal to a first preset distance. The present solution can solve the problem in the prior art of the bearing seat being contaminated due to the fact that particles are prone to being produced when the position of the shielding component is calibrated in the process chamber. Further disclosed in the present application is a semiconductor process apparatus.

(57) 摘要: 本申请公开一种半导体工艺设备的工艺腔室, 包括腔体、校准机构以及设于腔体之内的承载座、托架和遮蔽部件; 校准机构设于腔体; 遮蔽部件可随托架在第一位置与第二位置之间切换; 在遮蔽部件处在第一位置的情况下, 遮蔽部件与承载座错开, 且校准机构可将遮蔽部件调整至托架上的预设位置处; 在遮蔽部件处在托架上的预设位置处, 且托架带动遮蔽部件运动至第二位置的情况下, 遮蔽部件位于承载座的上方, 且遮蔽部件的中心轴线与承载座的中心轴线之间的间隔距离小于或等于第一预设距离。此方案能解决相关技术涉及的工艺腔室在对遮蔽部件进行位置校准时较易产生颗粒而污染承载座的问题。本申请还公开一种半导体工艺设备。