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(54) **Title:** SEMICONDUCTOR PROCESS CHAMBER AND SEMICONDUCTOR PROCESS DEVICE

(54) 发明名称: 一种半导体工艺腔室和半导体工艺设备

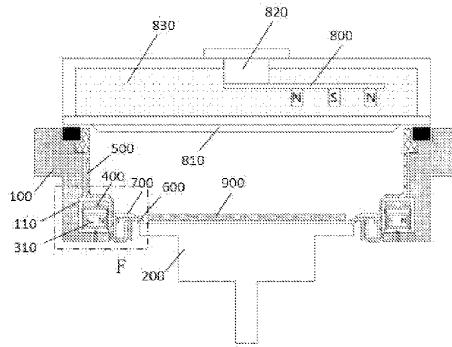


图 2a

(57) **Abstract:** The present application relates to the technical field of semiconductors, and particularly relates to a semiconductor process chamber and a semiconductor process device. The semiconductor process chamber comprises a chamber body, a carrying apparatus, a magnetron assembly, a bias magnetic field assembly and a magnetic shielding member, wherein the bias magnetic field assembly is arranged in the chamber body and is arranged around the carrying apparatus; and the magnetic shielding member is arranged above the bias magnetic field assembly and is used for performing magnetic conduction on a bias magnetic field above the bias magnetic field assembly, so as to weaken magnetic field coupling between the bias magnetic field assembly and the magnetron assembly. The semiconductor process device comprises the semiconductor process chamber. The process chamber and the semiconductor process device can weaken or even avoid magnetic field coupling and superimposition between a magnetic field of the bias magnetic field assembly and a magnetic field of the magnetron assembly, thereby ensuring the uniformity of the concentration and the sputtering rate of plasma on a surface of a target material to the greatest possible extent, reducing or even avoiding abnormal fluctuations of the voltage of the target material, and ensuring the uniformity of the corrosion depth of the surface of the target material and the uniformity of a magnetic thin film deposited on a surface of a wafer.

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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。

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本国际公布：
— 包括国际检索报告(条约第21条(3))。

(57) 摘要: 本申请涉及半导体技术领域，尤其涉及一种半导体工艺腔室和半导体工艺设备；该半导体工艺腔室包括腔室本体、承载装置、磁控管组件、偏置磁场组件和磁屏蔽件，偏置磁场组件设于腔室本体内部，且环绕于承载装置设置；磁屏蔽件设于偏置磁场组件上方，用于对偏置磁场组件上方的偏置磁场进行导磁；以减弱偏置磁场组件与磁控管组件之间的磁场耦合。该半导体工艺设备，包括该半导体工艺腔室。该工艺腔室和半导体工艺设备，能够减弱甚至避免偏置磁场组件与磁控管组件两个磁场之间的磁场耦合叠加，尽可能保证靶材表面的等离子体浓度和溅射速率的均匀性，减少甚至避免靶材电压的异常波动，保证靶材表面的腐蚀深度的均匀性及晶圆表面所沉积的磁性薄膜的均匀性。