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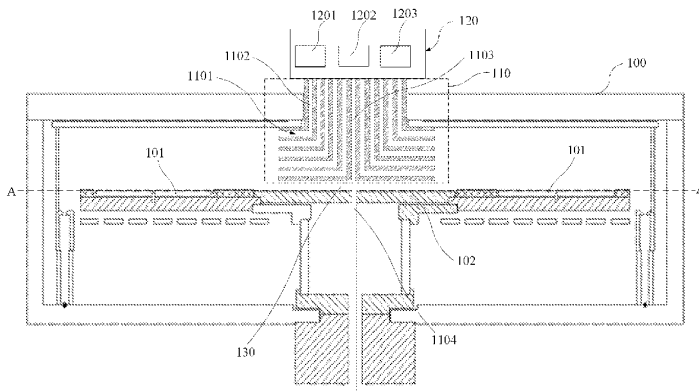
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(81) 指定国 (除另有指明, 要求每一种可提供的国家保护): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN,

(54) **Title:** GAS FEEDING DEVICE AND VAPOR DEPOSITION DEVICE

(54) 发明名称: 一种进气装置及气相沉积设备

[图1]



(57) **Abstract:** Disclosed in the present invention are a gas feeding device and a vapor deposition device. The gas feeding device comprises a plurality of horizontally-arranged gas channels, which are arranged at the top of the interior of a reaction chamber, gas inlets of all the gas channels being communicated with a gas source group, and the distance between a gas outlet of each gas channel and a susceptor in the vertical direction being different. The gas source group comprises a gallium source, a nitrogen source and a doping gas source, the gallium source and the nitrogen source being communicated with the interior of the reaction chamber by means of different gas channels, and the doping gas source being communicated with the interior of the reaction chamber by means of at least one gas channel, so as to feed a gallium-containing gas, a nitrogen-containing gas and a doping gas into the reaction chamber. The gallium-containing gas and the doping gas fed into the reaction cavity satisfy a preset equation, such that upon the start of feeding the doping gas into the reaction chamber, the vertical distance to the susceptor is relatively small, so as to increase the concentration of a doping impurity at edges of wafers, thus further ensuring the uniformity of the overall concentration of the doping impurity in the wafers.

(57) 摘要: 本发明公开一种进气装置及气相沉积设备, 所述进气装置包括: 若干个水平设置的气体通道, 设

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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。

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本国际公布:
— 包括国际检索报告(条约第21条(3))。

置于反应腔的内部顶部; 每一气体通道的进气口与气体源组连通, 且每一气体通道的出气口与托盘在竖直方向的间距不同; 气体源组包括镓源、氮源和掺杂气体源; 镓源和氮源通过不同的气体通道与反应腔的内部连通, 掺杂气体源通过至少一个气体通道与所述反应腔的内部连通, 以向反应腔内通入含镓气体、含氮气体和掺杂气体; 且通入所述反应腔的含镓气体和掺杂气体满足预设公式, 使得掺杂气体刚进入反应腔时与托盘的垂直距离较小, 从而提高晶圆边缘的掺杂杂质的浓度, 进而保证晶圆整体掺杂杂质浓度的均匀性。