

(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 2024/198776 A1

(43) 国际公布日
2024 年 10 月 3 日 (03.10.2024)

(51) 国际专利分类号:
H03H 9/64 (2006.01)

(21) 国际申请号: PCT/CN2024/077858

(22) 国际申请日: 2024 年 2 月 21 日 (21.02.2024)

(25) 申请语言: 中文

(26) 公布语言: 中文

(30) 优先权:
202310351296.0 2023年3月24日 (24.03.2023) CN
202310643636.7 2023年5月31日 (31.05.2023) CN

(71) 申请人: 华为技术有限公司 (HUAWEI TECHNOLOGIES CO., LTD.) [CN/CN]; 中国广东省深圳市龙岗区坂田华为总部办公楼, Guangdong 518129 (CN)。

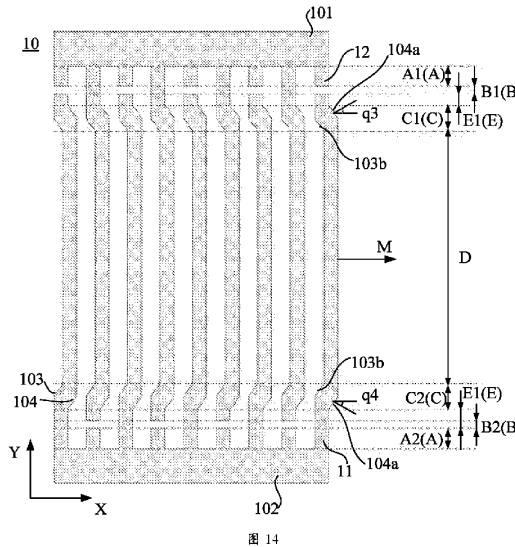
(72) 发明人: 柯汉 (KE, Han); 中国广东省深圳市龙岗区坂田华为总部办公楼, Guangdong 518129 (CN)。唐戴平 (TANG, Daiping); 中国广东省深圳市龙岗区坂田华为总部办公楼, Guangdong 518129 (CN)。陶翔 (TAO, Xiang); 中国广东省深圳市龙岗区坂田华为总部办公楼, Guangdong 518129 (CN)。

(74) 代理人: 北京中博世达专利商标代理有限公司 (BEIJING ZBSD PATENT & TRADEMARK AGENT LTD.); 中国北京市海淀区交大东路 31 号 11 号楼 8 层, Beijing 100044 (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,

(54) Title: ACOUSTIC FILTER AND PREPARATION METHOD THEREFOR, AND ELECTRONIC DEVICE

(54) 发明名称: 声学滤波器及其制备方法、电子设备



(57) Abstract: Embodiments of the present application provide an acoustic filter and a preparation method therefor, and an electronic device, for use in reducing the effect of a transverse mode excited in an acoustic resonator. The acoustic filter comprises a piezoelectric substrate and an interdigital transducer located on one side of the piezoelectric substrate. The interdigital transducer comprises a first bus bar and a second bus bar, and an edge region, a spacing region, a central region, and an inclined region that are arranged in a first direction are provided between the first bus bar and the second bus bar. The parts of first electrode fingers located in the edge region, the spacing region, and the central region are parallel to the first direction, and the parts of the first electrode fingers located in the

[见续页]

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))。

inclined region are inclined relative to both the first direction and a second direction. The sound velocity of a surface acoustic wave excited by the parts of the first electrode fingers located in the inclined region is reduced, so that the parts form a waveguide, and then the charge distribution of an interdigital electrode is adjusted, thereby inhibiting the excitation of a transverse mode. According to the present application, the extension direction of parts of the first electrode fingers needs to be adjusted, thereby facilitating the reduction of the area occupied by the resonator.

(57) 摘要: 本申请实施例提供一种声学滤波器及其制备方法、电子设备, 用于改善声学谐振器内激发的横向模式的影响。声学滤波器包括压电衬底和位于压电衬底一侧的叉指换能器。叉指换能器包括第一汇流条和第二汇流条, 第一汇流条和第二汇流条之间包括沿第一方向排布的边缘区域、间隔区域、中心区域和倾斜区域。第一电极指位于边缘区域、间隔区域和中心区域的部位平行于第一方向, 且位于倾斜区域的部位, 同时相对于第一方向和第二方向倾斜。第一电极指位于倾斜区域的部位的所激发的声表面波的声速降低, 以使该部分形成波导, 进而调节叉指电极的电荷分布, 抑制横向模式的激发。上述设置仅需调整部分第一电极指的延伸方向, 进而有利于缩小谐振器的占用面积。