

(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 2025/175406 A1

(43) 国际公布日
2025 年 8 月 28 日 (28.08.2025)

(51) 国际专利分类号:
H02J 9/06 (2006.01)

林鸿杰 (**LIN, Hung-chieh**); 中国台湾省桃园市中
坜区东园路16号 320023 (CN)。

(21) 国际申请号: PCT/CN2024/077493

(74) 代理人: 北京同立钧成知识产权代理有限公司(**LEADER PATENT & TRADEMARK FIRM**);
中国北京市海淀区西直门北大街32号枫
蓝国际A座8F-6 100082 (CN)。

(22) 国际申请日: 2024 年 2 月 19 日 (19.02.2024)

(25) 申请语言: 中文

(26) 公布语言: 中文

(71) 申请人: 台达电子工业股份有限公司 (**DELTA ELECTRONICS, INC.**) [CN/CN]; 中国台湾省桃园
市中坜区东园路16号 320023 (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。

(72) 发明人: 陈信智 (**CHEN, Hsin-chih**); 中国台湾省
桃园市中坜区东园路16号 320023 (CN)。蔡
孟江 (**TSAI, Meng-jiang**); 中国台湾省桃园市中
坜区东园路16号 320023 (CN)。高肇利 (**KAO,
Chao-li**); 中国台湾省桃园市中坜区东园路16号
320023 (CN)。谢奕平 (**HSIEH, Yi -ping**); 中国台
湾省桃园市中坜区东园路16号 320023 (CN)。

(54) Title: DUAL POWER SUPPLY SWITCHING SYSTEM AND OPERATING METHOD THEREFOR

(54) 发明名称: 双电源切换系统及其操作方法

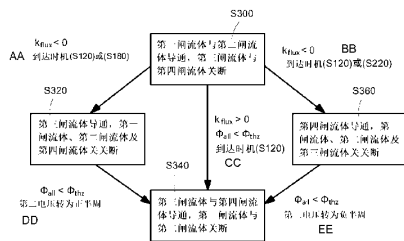


图4

S300 A first thyristor and a second thyristor are turned on, and a third thyristor and a fourth thyristor are turned off
S320 The third thyristor is turned on, and the first thyristor, the second thyristor, and the fourth thyristor are turned off
S340 The third thyristor and the fourth thyristor are turned on, and the first thyristor and the second thyristor are turned off
S360 The fourth thyristor is turned on, and the first thyristor, the second thyristor, and the third thyristor are turned off
AA Reach the timing of (S120) or (S180)
BB Reach the timing of (S120) or (S220)
CC Reach the timing of (S120)
DD The second voltage transitions to the positive half cycle
EE The second voltage transitions to the negative half cycle

(57) Abstract: The present invention provides a dual power supply switching system and an operating method therefor. The dual power supply switching system selects a first power supply or a second power supply to supply power to a load coupled with an inductive device. The dual power supply switching system comprises a first thyristor, a second thyristor, a third thyristor, a fourth thyristor, and a controller, and the controller calculates a total magnetic flux on the basis of the current magnetic flux of the inductive device and a predicted magnetic flux of the second power supply. When the power supply source is switched from the first power supply to the second power supply, the controller separately controls the first thyristor and the second thyristor to be turned off, and determines, on the basis of electrical parameters of a first static transfer switch and a second static transfer switch, whether a commutation time is reached. When the commutation time is reached, on the basis that the total magnetic flux is less than a threshold, the controller correspondingly turns on at least one of the third thyristor and the fourth thyristor.

[见续页]

(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))。

(57) 摘要: 本发明提供一种双电源切换系统及其操作方法, 所述双电源切换系统选择第一电源或第二电源对耦接电感性装置的负载供电, 双电源切换系统包括第一闸流体、第二闸流体、第三闸流体、第四闸流体及控制器, 且控制器根据电感性装置的当前磁通量与第二电源的预计磁通量计算总磁通量。当供电来源由第一电源切换至第二电源时, 控制器分别控制第一闸流体与第二闸流体关断, 且根据第一静态转换开关与第二静态转换开关的电力参数判断是否到达可换向时间。当到达可换向时间时, 控制器根据总磁通量小于阈值, 相应地导通第三闸流体与第四闸流体的至少其中一者。