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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, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL,

(54) Title: DIGITAL CHIP-BASED DIGITAL DRIVING METHOD FOR PIEZOELECTRIC CERAMIC TRANSFORMER

(54) 发明名称: 基于数字芯片的压电陶瓷变压器数字化驱动方法

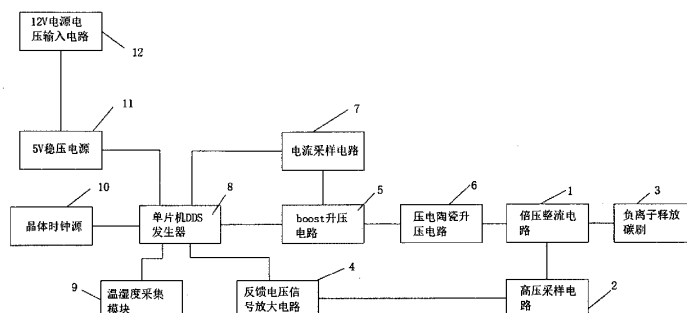


图 1

- | | |
|---|--|
| 1 Voltage multiplier rectifier circuit | 7 Current sampling circuit |
| 2 High voltage sampling circuit | 8 Single chip microcomputer DDS generator |
| 3 Negative ion release carbon brush | 9 Temperature/humidity sampling module |
| 4 Feedback voltage signal amplifier circuit | 10 Crystal clock source |
| 5 Boost circuit | 11 5V regulated power supply |
| 6 Piezoelectric ceramic boost circuit | 12 12 V power supply voltage input circuit |

(57) Abstract: Disclosed in the present invention is a digital chip-based digital driving method for a piezoelectric ceramic transformer, comprising the following steps: acquiring a rectified output voltage of a piezoelectric ceramic transformer; comparing the acquired output voltage with a preset voltage, and if there is a difference, adjusting the frequency of a driving signal; and adjusting the step-up ratio of the piezoelectric ceramic transformer by means of the frequency of the driving signal, so that the piezoelectric ceramic transformer outputs the preset voltage. In the present invention, the driving frequency can be changed in a digital way, so as to change the step-up ratio of the piezoelectric ceramic transformer, thereby finally stabilizing the output voltage. The piezoelectric ceramic transformer has stable output voltage, strong environmental adaptability and high reliability.

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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,
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根据细则4.17的声明:

- 关于发明人身份(细则4.17(i))
- 关于申请人有权申请并被授予专利(细则
4.17(ii))
- 关于申请人有权要求在先申请的优先权(细则
4.17(iii))

本国际公布:

- 包括国际检索报告(条约第21条(3))。

(57) 摘要: 本发明公开了一种基于数字芯片的压电陶瓷变压器数字化驱动方法, 包括如下步骤: 采集压电陶瓷变压器经过整流后的输出电压; 将采集的输出电压和预设电压比对, 若存在差值, 则调整驱动信号的频率; 通过驱动信号的频率调整压电陶瓷变压器升压比, 使得压电陶瓷变压器输出预设电压。本发明可以通过数字的方式改变驱动频率, 从而改变压电陶瓷变压器的升压比, 最终稳定输出电压。压电陶瓷变压器输出电压稳定, 环境适应性强, 可靠性高。