

Title (en)

Circuit for a pulse width modulation controlled electromagnetic purge valve for venting a tank of a vehicle

Title (de)

Schaltungsanordnung für ein pulsweitenmoduliert ansteuerbares elektromagnetisches Regenerierventil zur Tankentlüftung eines Kraftfahrzeugs

Title (fr)

Circuit pour vanne électromagnétique de purge commandé par modulation par largeur d'impulsions pour ventiler le réservoir d'un véhicule

Publication

EP 1400684 A3 20061206 (DE)

Application

EP 03015410 A 20030709

Priority

DE 10243956 A 20020920

Abstract (en)

[origin: EP1400684A2] The circuit includes a control unit for generating pulse-width modulated signals for driving an electromagnetic regenerative valve. A solenoid coil is supplied with the signals via a switch. A free-running diode is provided on the solenoid coil for suppressing high induced voltages.

IPC 8 full level

F02M 25/08 (2006.01); **H01F 7/18** (2006.01); **H02P 25/06** (2006.01)

CPC (source: EP US)

F02M 25/0836 (2013.01 - EP US); **H01F 7/1811** (2013.01 - EP US); **H01F 7/1844** (2013.01 - EP US); **H01F 2007/1888** (2013.01 - EP US)

Citation (search report)

- [X] FR 2797022 A1 20010202 - SAGEM [FR]
- [X] US 4703737 A 19871103 - COOK JOHN E [CA], et al
- [X] DE 19511743 A1 19961002 - MICRON ELECTRONICS DEVICES GMB [DE]
- [X] DE 29600866 U1 19960307 - FESTO KG [DE]
- [X] DE 4205563 A1 19930826 - PIERBURG GMBH [DE]

Cited by

CN103999172A; WO2013092169A1; US9502198B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

Designated extension state (EPC)

AL LT LV MK

DOCDB simple family (publication)

EP 1400684 A2 20040324; **EP 1400684 A3 20061206**; **EP 1400684 B1 20121031**; CA 2441249 A1 20040320; CA 2441249 C 20070605; DE 10243956 A1 20040415; JP 2004116522 A 20040415; US 2004105209 A1 20040603

DOCDB simple family (application)

EP 03015410 A 20030709; CA 2441249 A 20030917; DE 10243956 A 20020920; JP 2003329330 A 20030922; US 66513703 A 20030918