

Title (en)

CLOSELY SPACED ELECTRODES WITH A UNIFORM GAP

Title (de)

DICHT ANGEORDNETE ELEKTRODEN MIT EINHEITLICHER LÜCKE

Title (fr)

ELECTRODES ETROITEMENT ESPACEES PAR UN ENTREFER UNIFORME

Publication

**EP 1984625 A4 20101110 (EN)**

Application

**EP 07756398 A 20070122**

Priority

- US 2007060871 W 20070122
- US 34462206 A 20060131
- US 84126206 P 20060830

Abstract (en)

[origin: WO2007100941A2] An improved design for maintaining separation between electrodes in tunneling, diode, thermionic, thermophotovoltaic and other devices is disclosed. At least one electrode is made from flexible material. A magnetic field is present to combine with the current flowing in the flexible electrode and generate a force that counterbalances the electrostatic force or other attracting forces between the electrodes. The balancing of forces allows the separation and parallelism between the electrodes to be maintained at a very small spacing without requiring the use of multiple control systems, actuators, or other manipulating means, or spacers. The shape of one or both electrodes is designed to maintain a constant separation over the entire overlapping area of the electrodes. The end result is an electronic device that maintains two closely spaced parallel electrodes in stable equilibrium with a uniform gap therebetween over a large area in a simple configuration for simplified manufacturability and use to convert heat to electricity or electricity to cooling.

IPC 8 full level

**H02N 3/00** (2006.01); **F25B 21/02** (2006.01); **H01J 21/08** (2006.01)

CPC (source: EP KR)

**F25B 21/00** (2013.01 - EP); **H01J 1/88** (2013.01 - EP); **H01J 21/08** (2013.01 - EP); **H01J 45/00** (2013.01 - EP); **H02N 10/00** (2013.01 - KR); **F25B 2321/003** (2013.01 - EP); **Y02B 30/00** (2013.01 - EP)

Citation (search report)

- [X] WO 9913562 A1 19990318 - BOREALIS TECH LTD [US]
- [X] EP 1612492 A1 20060104 - GEN ELECTRIC [US]
- [A] US 6494048 B1 20021217 - GHOSHAL UTTAM SHYAMALINDU [US], et al
- See references of WO 2007100941A2

Designated contracting state (EPC)

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**WO 2007100941 A2 20070907**; **WO 2007100941 A3 20090528**; BR PI0708014 A2 20110517; EP 1984625 A2 20081029; EP 1984625 A4 20101110; JP 2009525620 A 20090709; KR 20080091783 A 20081014

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