

## Title (en)

Electrostatic micro-relay, radio device and measuring device using the electrostatic micro-relay, and contact switching method

## Title (de)

Elektrostatisches Mikrorelais, Funkgerät und Messgerät mit dem Mikrorelais versehen, und Schaltverfahren

## Title (fr)

Micro-relais électrostatique, dispositif radio et dispositif de mesure utilisant le micro-relais électrostatique, et procédé de commutation

## Publication

**EP 1246216 A3 20040721 (EN)**

## Application

**EP 02252164 A 20020326**

## Priority

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## Abstract (en)

[origin: EP1246216A2] Signal lines (5a, 5b) formed on a fixed substrate 1 are arranged on the same straight line. A movable substrate (2) is elastically supported on the fixed substrate (1) through beam portions (11) provided at two positions which are point-symmetrical with each other with a movable contact (16) centered thereon. At least portions opposing the signal lines (5a, 5b) are removed from the movable substrate (2). The movable contact (16) is elastically supported at two points that are orthogonal to the straight line on which the signal lines (5a, 5b) are arranged and do not face the signal lines (5a, 5b). A pair of protrusions 17 are formed at positions at which after closing the contacts, if a voltage were applied between the fixed electrode 4 and the movable electrode 12 without the protrusion, the fixed substrate 1 and the movable substrate 2 would contact each other following the contact between the fixed contact 7 and the movable contact 16, in a point-symmetrical manner with the movable contact 16 centered thereon. With this arrangement, it is possible to provide an electrostatic micro-relay which has a simple and small-size structure that is easily manufactured at low costs, and is superior in high-frequency characteristics with a suitable contact release force. <IMAGE>

## IPC 1-7

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## IPC 8 full level

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**H01H 59/00** (2013.01 - KR); **H01H 59/0009** (2013.01 - EP); **H01H 2059/0063** (2013.01 - EP)

## Citation (search report)

- [X] US 6054659 A 20000425 - LEE HAN-SHENG [US], et al
- [X] EP 0520407 A1 19921230 - MATSUSHITA ELECTRIC WORKS LTD [JP], et al
- [DX] PATENT ABSTRACTS OF JAPAN vol. 2000, no. 09 13 October 2000 (2000-10-13)
- [DA] PATENT ABSTRACTS OF JAPAN vol. 2000, no. 07 29 September 2000 (2000-09-29) & US 2002005341 A1 20020117 - SEKI TOMONORI [JP]

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## Designated contracting state (EPC)

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**EP 1246216 A2 20021002**; **EP 1246216 A3 20040721**; **EP 1246216 B1 20140604**; CN 1234144 C 20051228; CN 1378225 A 20021106; JP 2002289081 A 20021004; JP 3651404 B2 20050525; KR 100455949 B1 20041108; KR 20020076131 A 20021009; TW 550616 B 20030901

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