



US005733598A

# United States Patent [19]

[11] Patent Number: **5,733,598**

Sera et al.

[45] Date of Patent: **Mar. 31, 1998**

- [54] **FLEXIBLE WIRING BOARD AND ITS FABRICATION METHOD**
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- [73] Assignee: **Matsushita Electric Industrial Co., Ltd., Osaka, Japan**
- [21] Appl. No.: **815,993**
- [22] Filed: **Mar. 10, 1997**

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### Related U.S. Application Data

- [60] Continuation of Ser. No. 463,988, Jun. 5, 1995, abandoned, which is a division of Ser. No. 132,036, Oct. 5, 1993, Pat. No. 5,461,202.

### Foreign Application Priority Data

- Oct. 5, 1992 [JP] Japan ..... 4-265993
- Nov. 30, 1992 [JP] Japan ..... 4-320230

- [51] Int. Cl.<sup>6</sup> ..... **B05D 5/12**
- [52] U.S. Cl. .... **427/96; 427/98; 427/405**
- [58] Field of Search ..... **427/96, 98, 282, 427/304, 383.1, 402, 405**

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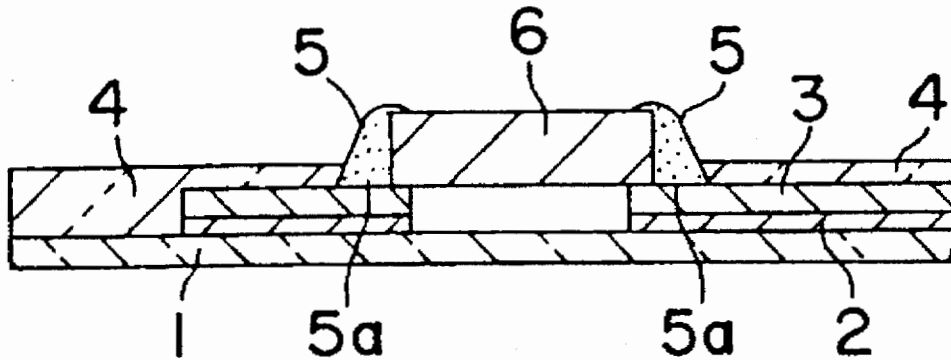
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*Assistant Examiner*—Brian K. Talbot  
*Attorney, Agent, or Firm*—Ratner & Prestia

### [57] ABSTRACT

A flexible wiring board includes a printed conductive circuit layer formed on an insulating film, a metallic layer formed on the printed conductive circuit layer, and an insulating layer formed on the metallic layer. A method of making a flexible wiring board includes the steps of forming a conductive circuit layer by screen printing a wiring pattern using a conductive paste, baking the printed wiring pattern, and forming a metallic layer on the printed conductive circuit layer by a plating method.

**13 Claims, 10 Drawing Sheets**



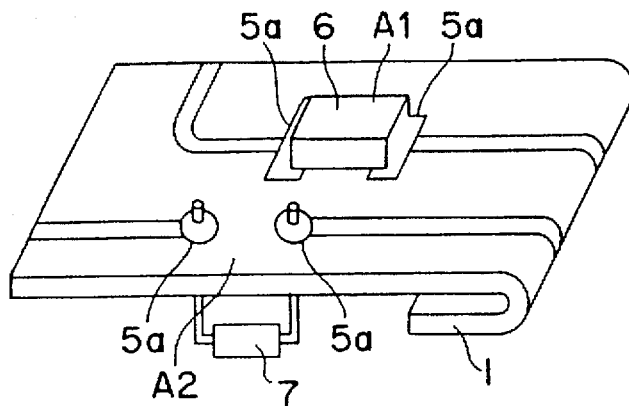


FIG. 1(a)

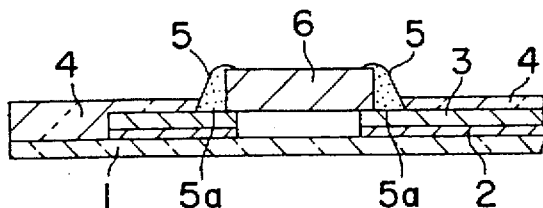


FIG. 1(b)

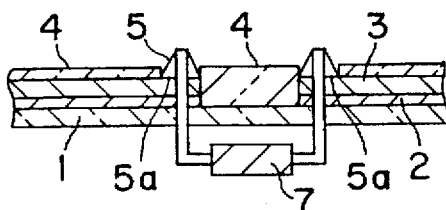


FIG. 1(c)

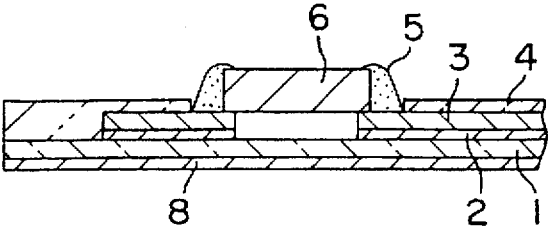


FIG. 2(a)

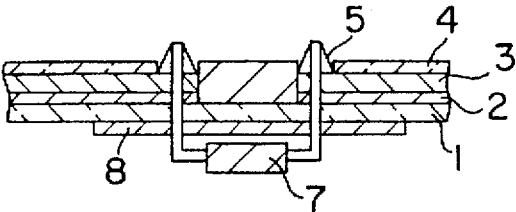


FIG. 2(b)

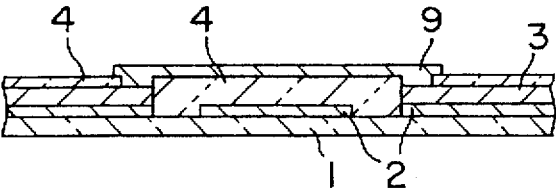


FIG. 3

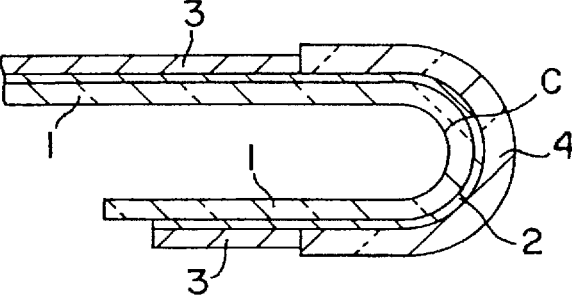


FIG. 4

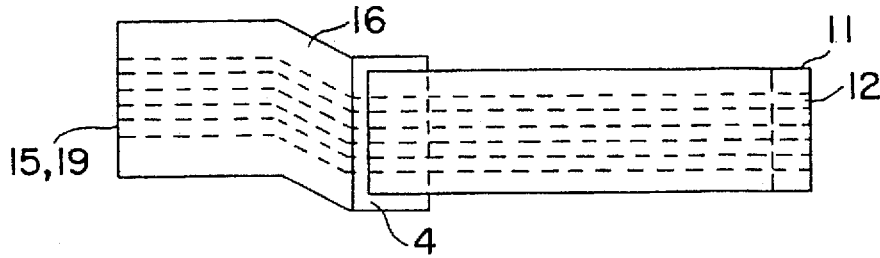


FIG. 5(a)

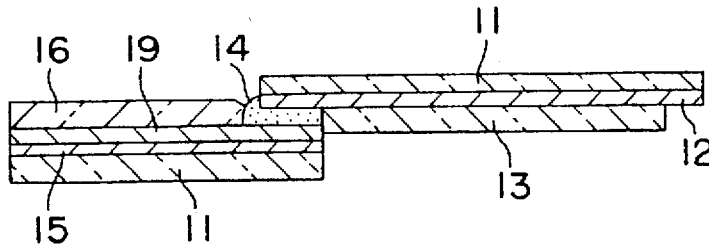


FIG. 5(b)

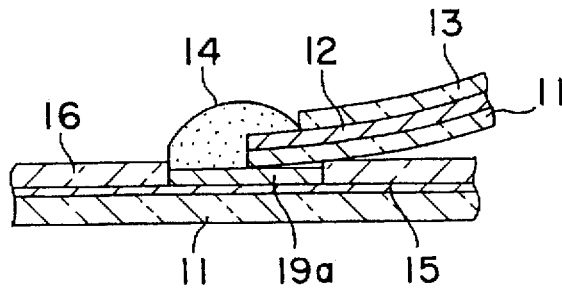


FIG. 6

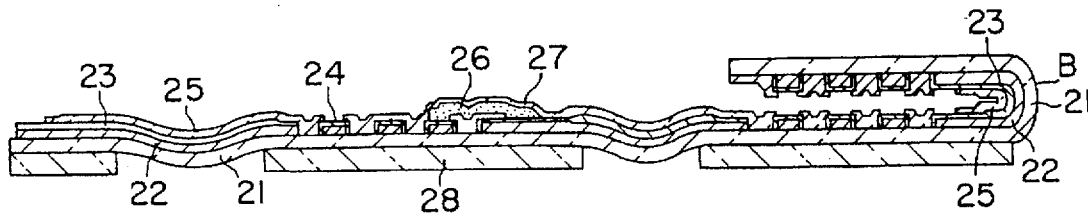


FIG. 7

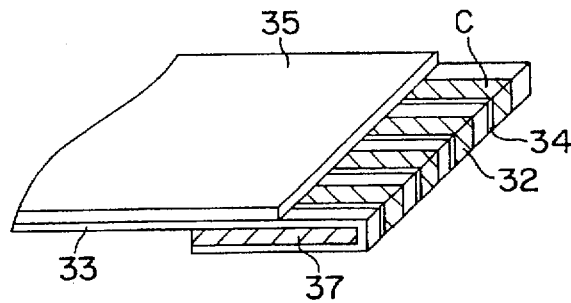


FIG. 8

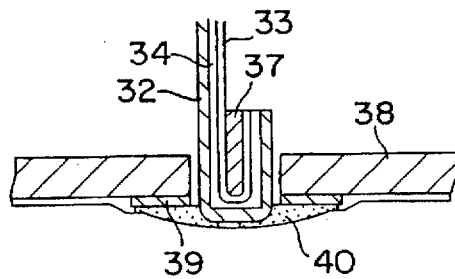


FIG. 9

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