

[Fig. 4] A graphic representation showing a relationship between phosphorus content in a plating liquid and stress of a diaphragm in modified embodiment (1).

5 [Fig. 5] A view showing a condenser microphone in modified embodiment (2).

[Fig. 6] A view showing a condenser microphone having a signal fetching circuit.

10 [Fig. 7] A sectional view of a conventional condenser microphone.

## DESCRIPTION OF THE REFERENCE SIGNS

[0064]

|    |     |                            |
|----|-----|----------------------------|
|    | 407 | sacrificial layer          |
|    | 408 | metal film                 |
| 15 | 420 | base layer                 |
|    | A   | substrate                  |
|    | B   | back electrode             |
|    | Ba  | perforations               |
|    | C   | diaphragm                  |
| 20 | D   | spacer                     |
|    | F   | void area                  |
|    | H   | electric connecting member |
|    | G   | signal fetching circuit    |



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\*G00002\*

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characterized in that the diaphragm is formed of a lamination consisting of a base layer made of an organic film(s) using one of a resist, polyimide resin and polyparaxylene resin, and a conductive layer(s) made of a conductive material.

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[5] A sound detecting mechanism as claimed in Claim 1 characterized in that the organic film of the sacrificial layer uses one of a resist and polyimide resin for forming a void area between the back electrode and the diaphragm by etching the sacrificial layer.

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[6] A sound detecting mechanism as claimed in Claim 1 characterized in that the substrate is made of a monocrystal silicon substrate, and that a silicon substrate of (100) orientation is used as the monocrystal silicon substrate.

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[7] A sound detecting mechanism as claimed in any one of Claims 1 to 6 characterized in that as a base for the sacrificial layer, a material having resistance to anisotropic etching may be used.

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[8] A sound detecting mechanism as claimed in any one of Claims 1 to 6 characterized in that the sacrificial layer has a thickness of 1 to 5 $\mu$ m.

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[9] A sound detecting mechanism as claimed in any one of Claims 1, 2, 5 and 6 characterized in that the diaphragm is formed of a plated layer formed by plating technique, and that an adhesion layer is disposed between the plated layer and an insulating layer formed on the substrate for enhancing adhesion.

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[10] A sound detecting mechanism as claimed in any one of Claims 1