US00D796978S

(12) United States Design Patent

Kawashima et al.

(10) Patent No.: US D796,978 S
(45) Date of Patent: ** Sep. 12, 2017

(54) **SOCKET FOR ELECTRONIC DEVICE TESTING APPARATUS**

(71) Applicant: **ADVANTEST CORPORATION**, Tokyo (JP)

(72) Inventors: **Takashi Kawashima**, Saitama (JP); **Shintaro Takaki**, Saitama (JP)

(73) Assignee: **ADVANTEST CORPORATION**, Tokyo (JP)

(**) Term: **15 Years**

(21) Appl. No.: **29/560,253**

(22) Filed: **Apr. 5, 2016**

(30) **Foreign Application Priority Data**

Mar. 24, 2016 (JP) 2016-006402

(51) **LOC (10) Cl.** **10-04**

(52) **U.S. Cl.**
USPC **D10/80**; D13/154; D14/217

(58) **Field of Classification Search**
USPC D10/80, 103; D13/133, 139, 154, 173; D14/217, 432, 433
CPC G01R 1/0433; G01R 1/0441; G01R 1/045; G01R 1/0458; G01R 1/0466; G01R 1/0475; G01R 1/0483
See application file for complete search history.

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Primary Examiner — Antoine D Davis
(74) *Attorney, Agent, or Firm* — Greenblum & Bernstein, P.L.C.

(57) **CLAIM**

We claim the ornamental design for a socket for an electronic device testing apparatus, as shown and described.

DESCRIPTION

FIG. **1** is a top plan view of a socket for an electronic device testing apparatus according to a first embodiment of the present design.
FIG. **2** is a bottom plan view of the socket shown in FIG. **1**.
FIG. **3** is a front view of the socket shown in FIG. **1**.
FIG. **4** is a rear view of the socket shown in FIG. **1**.
FIG. **5** is a right side view of the socket shown in FIG. **1**.
FIG. **6** is a left side view of the socket shown in FIG. **1**.
FIG. **7** is a perspective view, as viewed from above, of the socket shown in FIG. **1**.
FIG. **8** is a reference top plan view of the socket shown in FIG. **1**.
FIG. **9** is a cross-sectional view taken along line **9-9** of FIG. **8**.
FIG. **10** is a reference cross-sectional view showing the usage state of the socket shown in FIG. **1**.
FIG. **11** is a top plan view of a socket for an electronic device testing apparatus according to a second embodiment of the present design.
FIG. **12** is a perspective view, as viewed from above, of the socket shown in FIG. **11**.
FIG. **13** is a reference top plan view of the socket shown in FIG. **11**; and,
FIG. **14** is a cross-sectional view taken along line **14-14** of FIG. **13**.

The bottom plan view, the front view, the rear view, the right side view, and the left side view of the second embodiment

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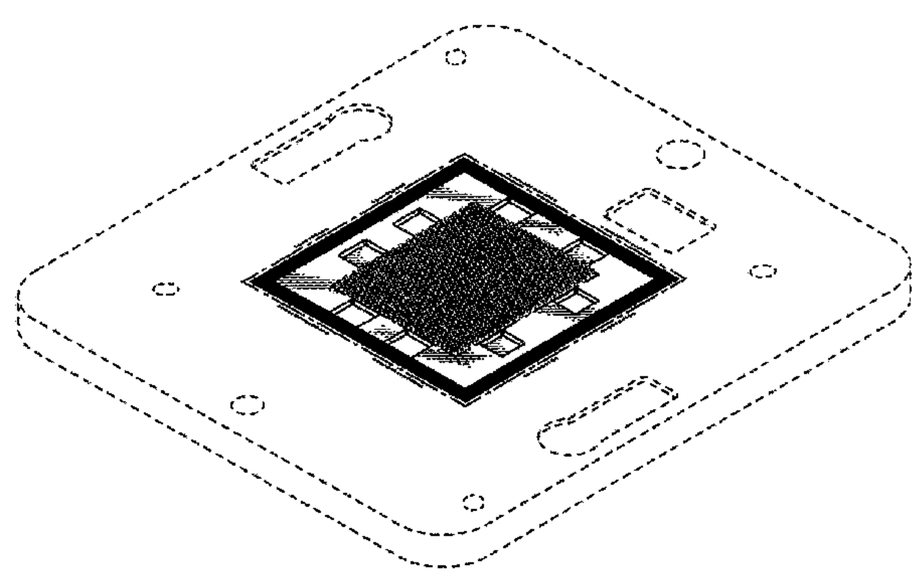

are the same as the bottom plan view, the front view, the rear view, the right side view, and the left side view of the first embodiment, respectively.

The present design is embodied in a socket to be installed in an electronic device testing apparatus that tests electrical characteristics of an electronic device such as a semiconductor integrated circuit. As shown in the reference cross-sectional view showing the usage state, when an electronic device is tested, the electronic device retained by an insert is pressed into the socket from above, and external connection terminals led out from the electronic device are brought into contact with terminals of the socket (the terminals are represented by a large number of circles in the top plan views) so that the electronic device and the electronic device testing apparatus are electrically connected with each other via the socket. In this state, the electronic device testing apparatus tests the electronic device. Eight recessed parts shown in FIG. **1** and FIG. **7** are disposed around the terminals to avoid interference of hook parts of the insert holding the electronic device with the socket, and eight recessed parts shown in FIG. **11** and FIG. **12** are also disposed around the terminals to avoid interference of hook parts of the insert holding the electronic device with the socket. When the electronic device is made to approach the socket, an image recognition process is used to align the electronic device with the socket in a high degree of accuracy. A black rectangular frame shown in FIG. **1** is used in the image recognition process, and a black rectangular frame shown in FIG. **11** is also used in the image recognition process.

The part represented by solid lines is a part of the claimed design. The dot-dash broken lines (the alternate long and short dash lines) represent only a border between the part of the claimed design and other part. The dashed broken lines (the broken lines) are for illustrative purposes only and form no part of the claimed design.

1 Claim, 14 Drawing Sheets

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FIG. 1

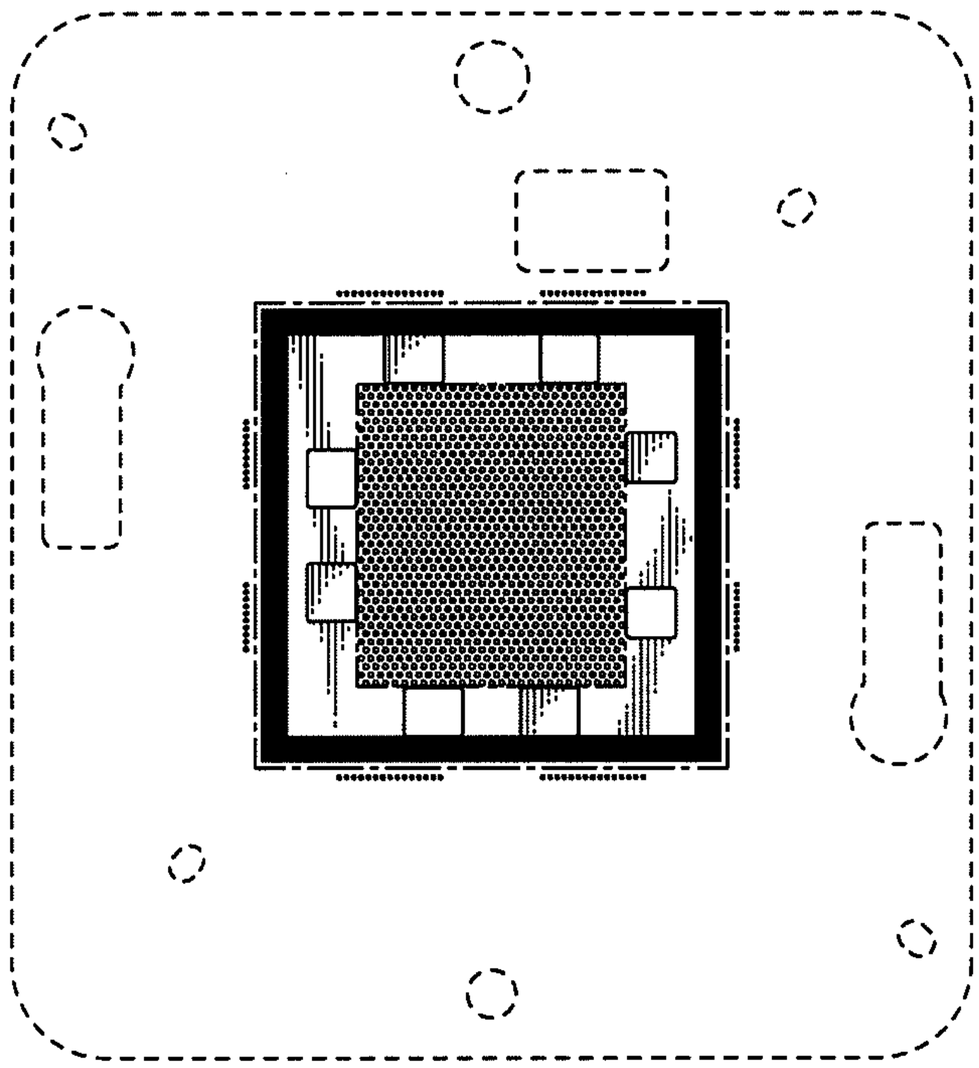

FIG. 2

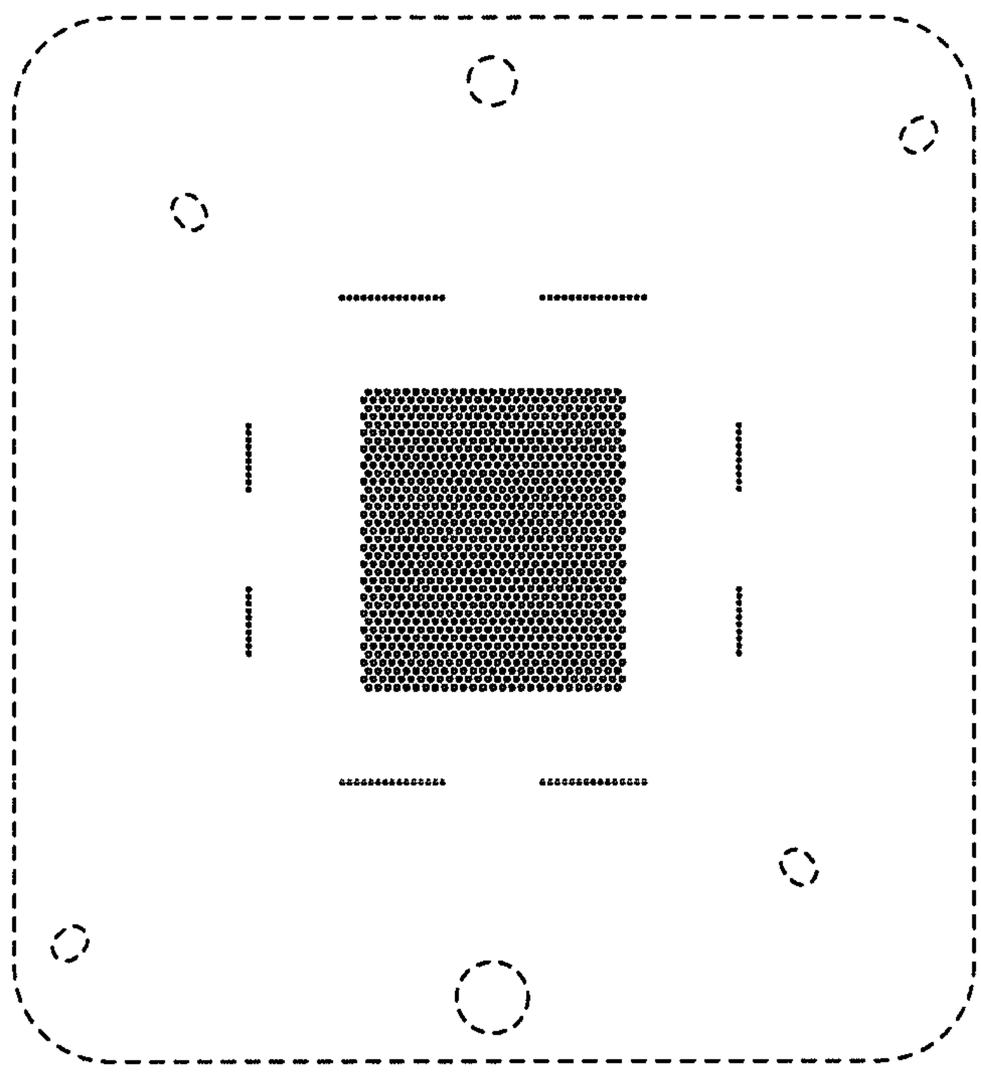

FIG. 3

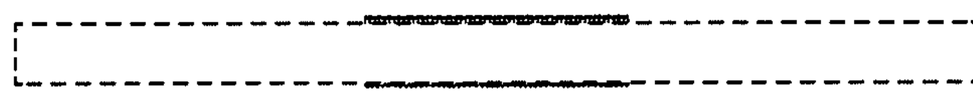

FIG. 4

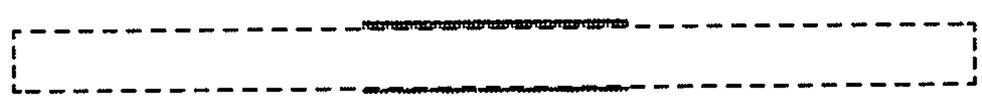

FIG. 5

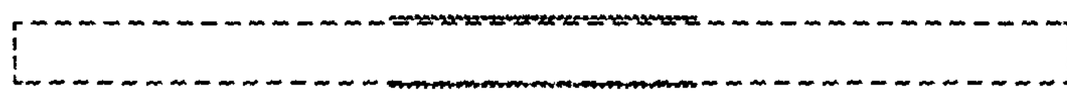

FIG. 6

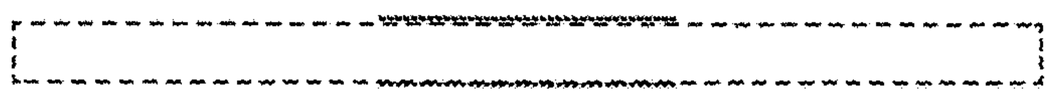

FIG. 7

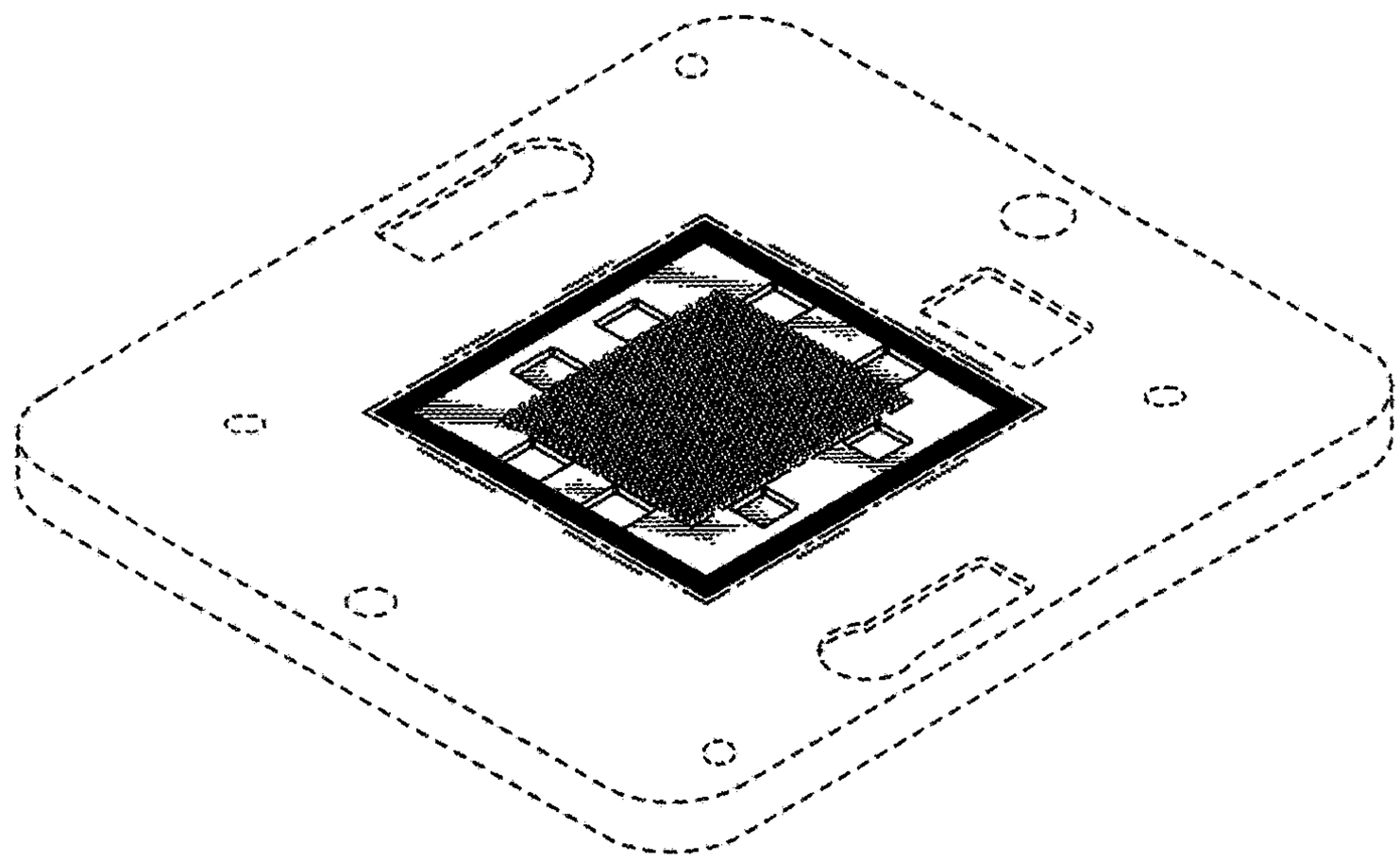

FIG. 8

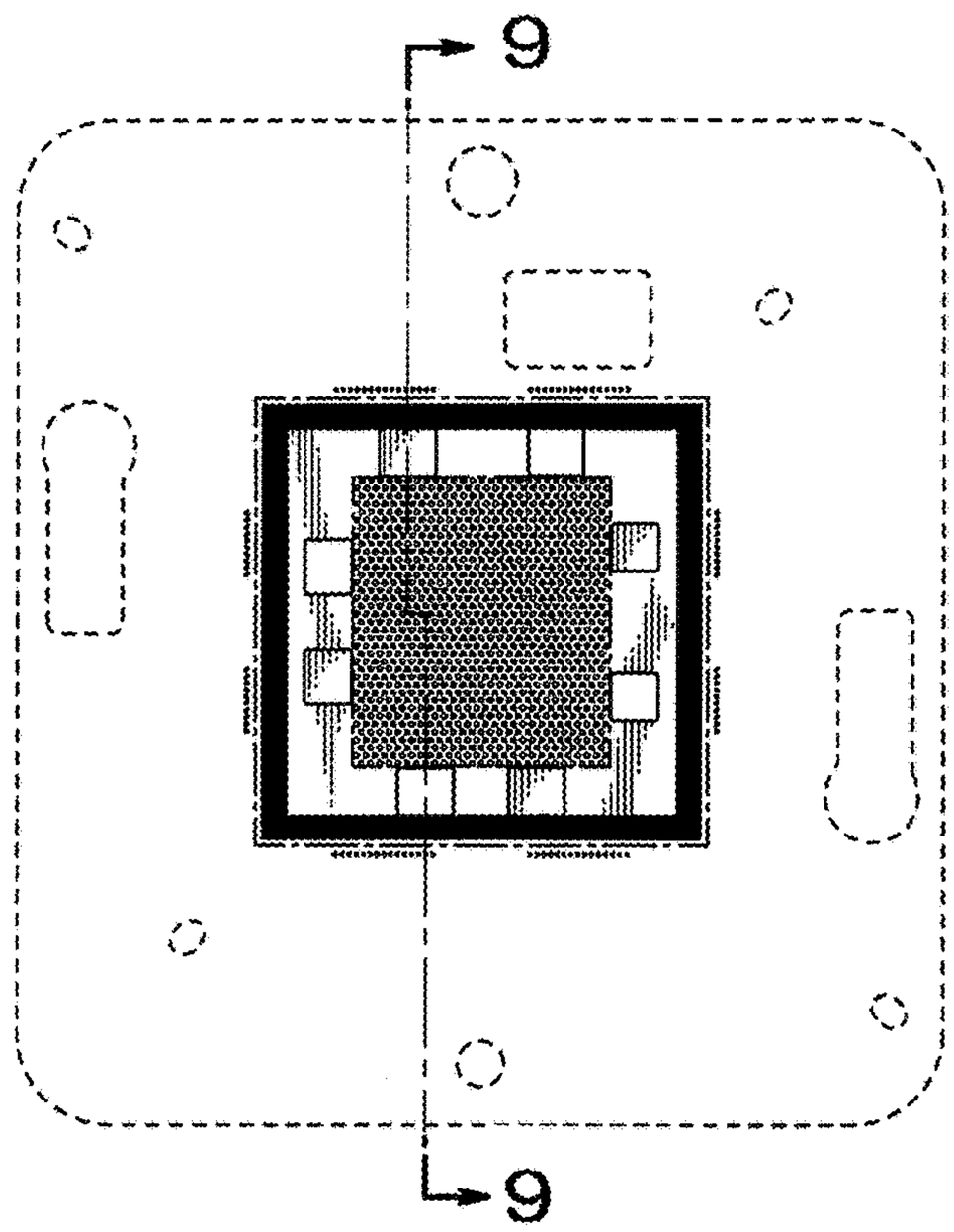

FIG. 9

FIG. 10

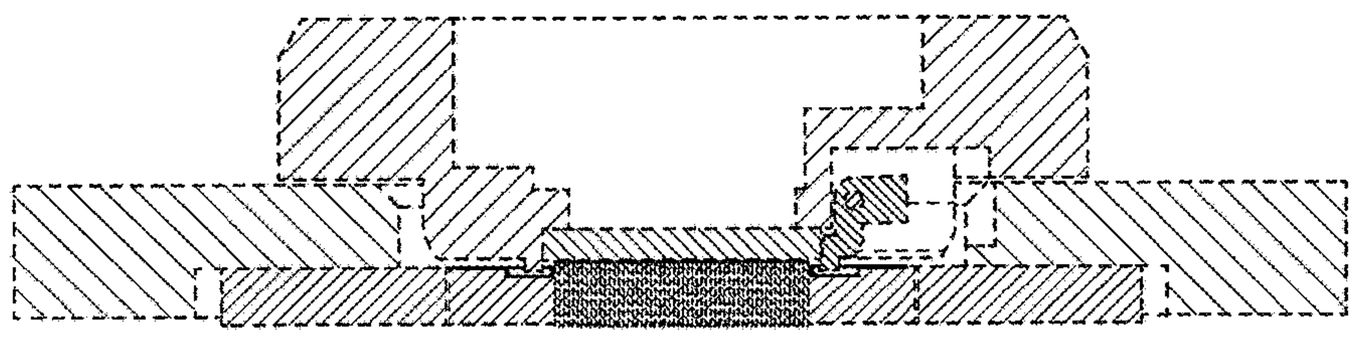

FIG. 11

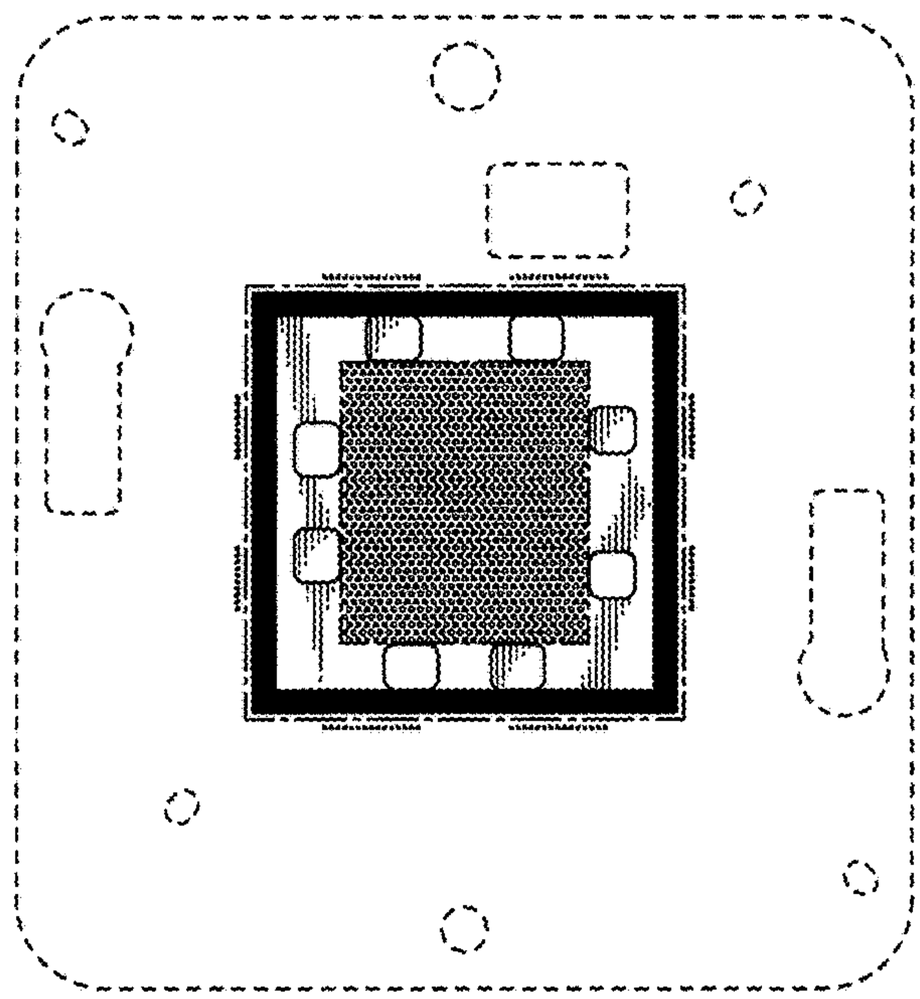

FIG. 12

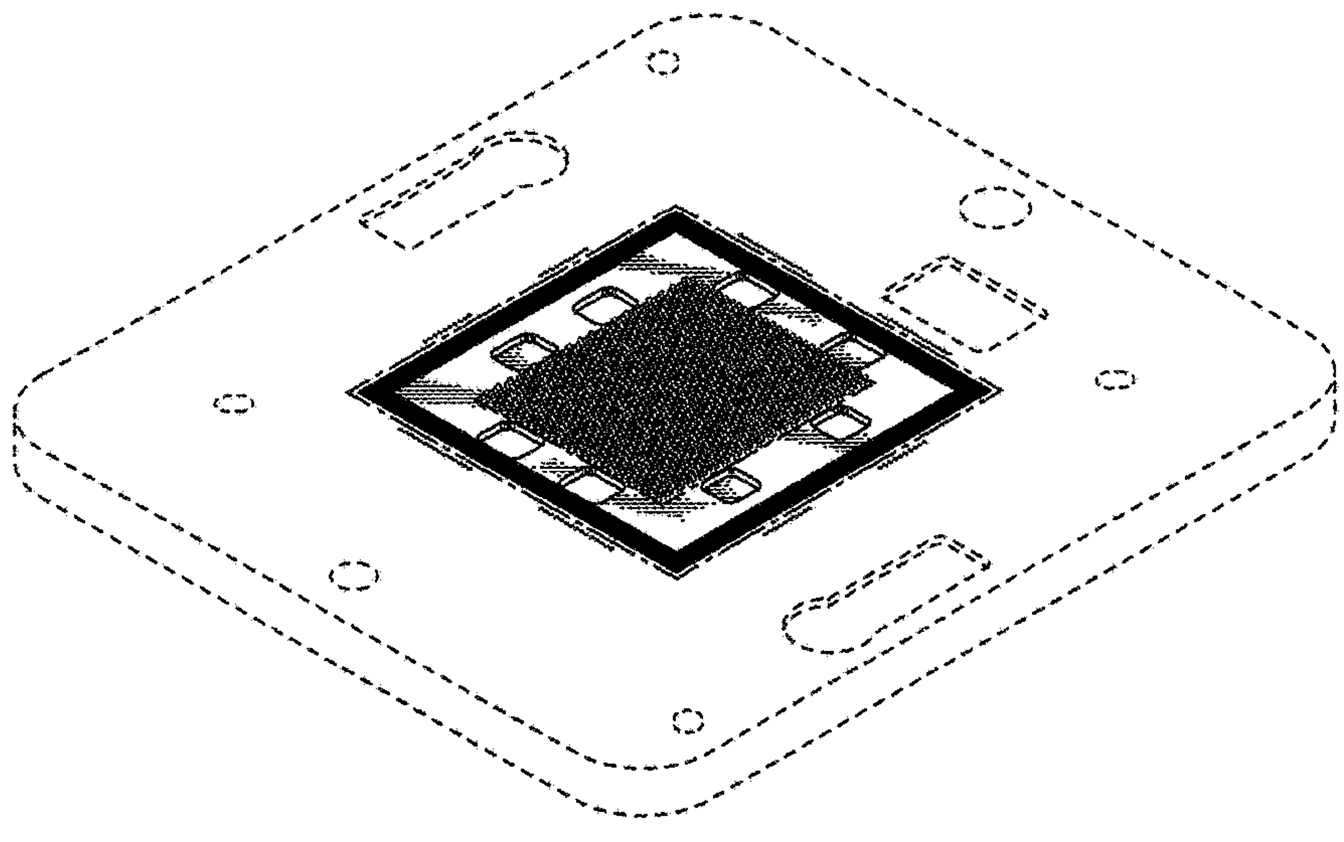

FIG. 13

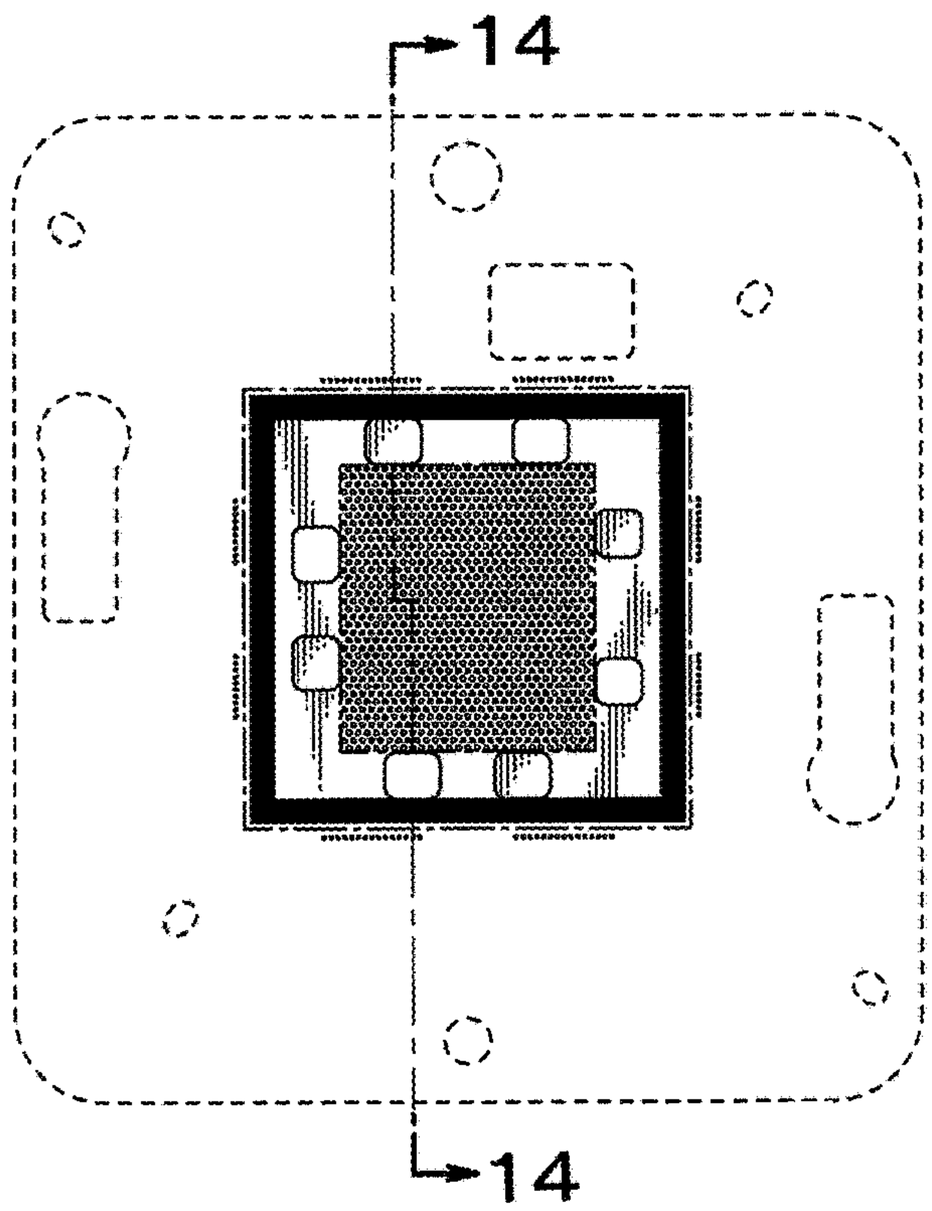

FIG. 14