

## Description

### 1. Field of the Invention

This invention relates to an improvement in a contact shutter device in which contacts are pressed so as to be displaced by the lowering movement of the contact shutter device mounted on a socket body in order to cancel the contact relation with an IC package.

### 2. Brief Description of the Prior Art

In Japanese Utility Model Early Laid-open Publication No. Sho 62-111673, the contact is provided with a contacting piece portion formed on an upper end of its curved spring piece, and this contacting piece portion is pressed so as to be displaced backward and downward by the lowering movement of a contact shutter member so that its contact relation with a terminal member of an IC package would be canceled.

The above-mentioned prior art aims at mounting and removing the IC package with ease by displacing the contacting piece portion of the contact backward and downward and bringing it to a position where the contacting piece portion of the contact would not interfere the terminal member of the IC package to release the restraint of the IC package. With the above-mentioned construction of the prior art, however, a lot of useless component of force for vertically pushing down the contacting piece portion are generated when the contacting piece portion is pushed down and the push-down force cannot be favourably converted to the backward and downward displacement of the contact. The curved spring piece also does not effectively contribute to the backward and downward displacement of the contact. Moreover, there is a fear that the excessive generation of the component of the vertical push-down force causes the contact to be deformed.

It also has such a problem as that the excessive push-down force to the shutter member jeopardizes the smooth operation of the device.

There is also proposed another example wherein the contact is provided with a pressing force receiving portion by a contact shutter member projecting from a waist portion below the contacting piece portion of the contact as disclosed, for example in Japanese Patent Early Laid-open Publication No. SHO 62-93964. However, as the rigidity becomes extremely high on the side of the contact which is fixedly embedded, the push-down operation of the shutter member becomes very heavy for a socket having many poles and a space for inserting the push-down portion of the shutter member deep into the back of the contact is required, thus resulting in a large size of the device.

EP-A-0,390,543 and EP-A-0,425,110, which are

documents relevant under Article 54(3) EPC, illustrate socket mounted contacts having a general form similar to those shown in the accompanying Figs. 3 - 5.

## SUMMARY OF THE INVENTION

The present invention provides means for properly solving the above-mentioned problems inherent in the above-mentioned prior published specifications.

The invention provides an IC socket according to Claim 1.

The cantilever arm is therefore extended backward of a contacting piece portion of a contact, and is provided with a pressing force receiving portion formed on a free end portion thereof. The press start point of the pressing force receiving portion by the contact shutter member is set to be in a higher position than the contact point of the contacting piece portion.

Moreover the press point of the pressing force receiving portion of the free end portion of the cantilever arm is disposed backward of a curved spring piece adapted to support the contacting piece portion of the contact.

A pressing force can therefore be applied to the pressing force receiving portion by the contact shutter member when the pressing force receiving portion is sufficiently separated apart backward of the contacting piece portion through the cantilever arm and disposed in a higher position than the contact point of the contacting piece portion. When the pressing force is applied, the pressing force receiving portion displaces the contacting piece portion backward and upward while displacing with the orbit from the position passed the upper dead point of the circle about the contact point of the contacting piece portion toward backward of the side dead point so as to separate the contacting piece portion apart from the terminal member without fail.

By applying a pressing force to the pressing force receiving portion on the upper position sufficiently separated apart backward of the contacting piece portion through the cantilever arm as mentioned, the pressing force can be favourably converted to the backward and upward displacing force of the contacting piece portion of the contact and the curved spring piece adapted to support the contacting piece portion can be effectively served for displacement of the contact. Accordingly, a sufficient displacing amount of the contact can be ensured by a limited push-down amount of the contact shutter member.

Furthermore, a pressing force can be applied to the pressing force receiving portion by the contact shutter member on a position sufficiently separated apart backward of the contacting piece portion through the cantilever arm, a harmful component of force for vertically pushing down the contacting piece

portion can be effectively prevented from occurring and a correct non-interfering position with respect to the IC package can be obtained. In addition, the push-down operating force can be reduced. Various advantages and features of novelty which characterize the present invention are pointed out with particularity in the claims annexed hereto and forming a part hereof. However, for a better understanding of the present invention, its advantages, and objects attained by its use, reference should be had to the drawing which forms a further part hereof, and to the accompanying descriptive matter, in which there is illustrated and described a preferred embodiment of the present invention.

### BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of an IC socket to which the present invention can be applied;

Fig. 2 is a plan view thereof;

Fig. 3 is a sectional view thereof before push-down operation;

Fig. 4 is likewise a sectional view thereof after the push-down operation;

Fig. 5 is likewise a sectional view thereof showing its contact relation with the IC package after the push-down operation is cancelled;

Fig. 6 is a sectional view the present invention showing a contact relation of an IC socket with an IC package;

Fig. 7 is a side view of a contact of a type to which the invention can be applied; and

Fig. 8 is likewise a side view showing the contact of Fig. 7 displacing.

### DETAILED DESCRIPTION OF THE EMBODIMENT

The present invention will be described in detail with reference to Figs. 1 through 7 of the accompanying drawings wherein Fig. 6 illustrates the invention. The socket body 1 has a plurality of contacts 4 which are arranged in such a manner as to contact a plurality of terminal elements of the IC package 2.

The terminal elements 3 of the IC package 2, as shown in Fig. 5, have front ends projecting sideward generally in parallel relation with each other from opposite sides thereof and bent in two steps extending generally in a horizontal direction.

Also, each of the contacts 4, as shown in Figs. 3 and 7, has a male terminal 5 extending downward from a fixed end 7 thereof embedded in the socket body 1 and projecting downward from the socket body and a curved spring piece 6 continuous upward from the fixed end 7. The curved spring piece 6 is expanded forward (toward the side of the IC package 2), and the curved spring piece 6 is provided with a contacting piece portion 8 continuous to an upper end of the curved spring piece 6. The contacting piece por-

tion 8 is projected toward the expanding side (forward) of the curved spring piece 6 and has a contacting lug 9 formed on the front end thereof and facing downward.

The contact 4 is provided with a cantilever arm 10 continuous from an upper end of the contact 4, i.e., continuous backward from the contacting piece portion 8. The cantilever arm 10 is continuous at one end thereof to the contact piece portion 8 and has a free end at the other end. A pressing force receiving portion 11 to be opened and closed by a contact shutter member as will be described is formed on the free end portion of the cantilever arm 10. The pressing force receiving portion 11 is formed of a projecting piece projecting upward.

A press point on an upper end of the upward projecting piece as the pressing force receiving portion 11 is represented by  $P_2$  and a contact point on a lower end of the contacting lug 9 of the contacting piece portion 8 where the contacting lug 9 contacts with the terminal member 3 of the IC package 2 is represented by  $P_1$ . The press point  $P_2$  is set as such that it is present in a higher position than a horizontal line passing across the contact point  $P_1$ . The correlation between the contact point  $P_1$  and the press point  $P_2$  wherein the former is in the upper position and the latter is in the lower position is determined by the extending direction of the cantilever arm 10 and the length of the projection of the pressing force receiving portion 11.

The illustrated cantilever arm 10 is once extended downward exceeding the contact point  $P_1$  and then bent like a hook to form the upward projecting piece (pressing force receiving portion 11).

Preferably, the extending length of the cantilever arm 10 is properly selected such that the press point  $P_2$  of the pressing force receiving portion 11 is present behind the curved spring piece 6.

Figs. 3 through 5 show the contact 4 which is of the type contacting at its one surface, and the contacting lug 9 of the contacting piece portion 8 is urgedly contacted with the upper surface of the front end of the terminal member supported by a terminal supporting seat 16 from the above at angles as shown by an arrow  $W_3$  of Fig. 7.

Also, Fig. 6 shows the contact 4 according to the invention which is of the type contacting at its both surfaces and as illustrated, the fixed end 7 is provided with a contact piece 22 erected upward to support a lower surface of a front end portion of the terminal member 3 of the IC package 2 at its front end portion, the contacting piece portion 8 being urgedly contacted to the upper surface of the front end portion thereby to support the lower surface of the front end of the terminal member 3, the contacting piece portion 8 being urgedly contacted to the upper surface of the front end portion to clamp the upper and lower surfaces of the terminal member 3 to obtain a reliable contact. Reference numeral 12 denotes a contact shutter

member adapted to render a push-down force to the pressing force receiving portion 11 of the contact 4. The contact shutter member 12 is vertically movably crowned on the socket body 1.

The contact shutter member 12, as shown in Figs. 1 and 2, has an IC accommodating window 13 at its central portion. An IC mounting portion 14 of the socket body 1 is formed immediately under the IC accommodating window 13. The IC mounting portion 14 is provided with a ridge 15 adapted to support the substrate portion of the terminal member 3 of the IC package 2 so as to correctly position the IC package 2 by regulating the sides of the body of the IC package 2 or the bent stepped-portion of the terminal member 3 while supporting the terminal member 3 by the ridge 15. At this time, in the construction of Figs. 3 through 5, the front end portion of the terminal member 3 is supported by and held in a predetermined position by the terminal supporting seat 16. Similarly, in the embodiment of the invention shown in Fig. 6, the front end of the terminal member 3 is supported by the contact piece 22. The positioning ridge 15 may be designed such that it does not support the terminal member 3 but it restrains only the sides of the body of the IC package 2.

The contacts 4 are juxtaposed with each other along opposite pieces of the IC mounting portion 14, the contacting piece portions 8 of the contacts 4 are accommodated in an opening portion 17 which is formed on the external side of the terminal supporting seat 16 and in the construction shown in Figs. 3 through 5, the contacting lugs 9 are abutted against the outer surface of the terminal supporting seat 16. On the other hand, in the embodiment shown in Fig. 6, the contacting lugs 9 are abutted against the contact pieces 22 and held in a state where they store resilient force respectively. In other words, they are held in a so-called preloaded state.

Also, the contact shutter member 12 has a pair of push-down operating portions on both outer sides of the IC accommodating window 13. The push-down operating portion 18 is provided with a pair of engaging fingers 19 hanging down from its opposite side walls and the engaging fingers 19 are snugged in guide grooves 20 formed in the opposite side walls of the socket body 1 so that the engaging fingers 19 can be vertically moved along the guide groove 20, and the contact shutter member 12, when lifted up by a predetermined amount, causes the engaging claws formed on the front ends of the engaging fingers 19 to be engaged with the stepped-portions formed on the upper end of the guide groove to determine a lifting dead point of the shutter member 12.

The contact shutter member 12 is vertically movably mounted on the socket body 1 by the above-exemplified connecting means, i.e., the engaging fingers 19 and in that mounted state, a corresponding state between the IC accommodating window 13 and

the IC mounting portion 14 of the socket body 1. Furthermore, the pressing force receiving portion 11 of the contact 4 and a press portion 21 as will be described are brought to be in a corresponding state and the push-down operating portion 18 is brought to an upper and opposite position with respect to the pressing force receiving portion 11 of the contact 4.

The push-down operating portion 18 is provided with a partition wall 27 projecting downward into between the adjacent pressing force receiving portions 11 of the contacts 4 and the press portion 21 is formed on a valley portion between the adjacent partition walls 27 so as to render a pressing force to the pressing force receiving portion 11.

The press portion 21 is formed into an inclined surface rising backward of the contact 4. When the push-down force is applied to the push-down operating portion 18 of the contact shutter member 12 and the press portion 21 is vertically descended, the press point  $P_2$  of the pressing force receiving portion 11 is moved to the upper end side (Fig. 4) of the inclined surface to the lower end side (Fig. 3) thereof while sliding down the inclined surface forming the press portion 21.

More specifically, when a press force is applied to the pressing force receiving portion 11 as shown in Figs. 7 and 8, the press point  $P_2$  causes the curved spring piece 6 to be displaced against its resilience and at the same time, it causes the cantilever arm 10 to be displaced in such a manner as that the cantilever arm 10 is displaced backward and downward in the arrow  $W_1$  direction with the orbit from an upper position (press start point) passed an upper dead point of a circle about the contact point  $P_1$  toward backward of the side dead point and it also causes the contacting piece portion 8 to be separated apart from the terminal member 3 without fail. Preferably, the cantilever arm 10 and the contacting piece portion 8 are rigid with respect to the press.

At this time, although a push-down force is applied to the press point  $P_2$  in the vertical direction as shown by the arrow  $W_2$ , this press force does not act as a force for pushing down the contact point  $P_1$  in the vertical direction but rather effectively acts as a component of force for displacing the press point  $P_2$  backward and downward in the direction shown by the arrow  $W_1$  and displacing the contact point  $P_1$  backward and upward while separating the same upward at angles. The arrow  $W_2$  also shows the moving direction of the press portion 21.

In the above-mentioned construction, although the press portion 21 is formed into an inclined surface so as to enhance the backward and downward displacement, the press portion 21 may be formed into a generally horizontal surface for applying a press force to the pressing force receiving portion 11 to obtain the backward and downward displacement.

In this way, as is shown in Fig. 4, there is formed

a state where the contacting piece portion 8 is sufficiently separated apart to a position so as not to interfere with the IC package 2 and in the foregoing state, the IC package 2 is mounted on the IC accommodating portion 14 through the IC accommodating window 13. When the push-down force to the push-down operating portion 18 of the contact shutter member 12 is cancelled, the shutter member 12 is lifted up by a Predetermined amount by the restoring force of the curved spring piece 6 of the contact 4 and the cantilever arm 10 to wait for the next push-down operation and as a result of the restoring force, the contact 4 causes the contacting piece portion 8 to be displaced so that the contacting lug 9 is contacted with the upper surfaces of the front end portions of the terminal member 3 (Fig. 5) supported by the terminal supporting seat 16 or the terminal member (Fig. 3) supported at its lower surface by the contact piece 22 under a predetermined contact pressure applied from the above at angles as shown by the arrow  $W_3$ . This contact pressure becomes the sum of the resilient force which is stored beforehand and the resilient force generated in accordance with the thickness of the terminal member 3.

As a result, the IC package 2 is held between the terminal supporting seat 16 or the contact piece 22 and the contacting lug 9 of the contacting piece portion 8, and held by the socket body 1.

When the push-down operating portion 18 of the contact shutter member 12 is pushed down again from the above-mentioned contacting state, the contact 4 is displaced in the same manner as described and is brought to be in a non-interference position with respect to the IC package 2 by canceling its contact with the IC package 2. In the foregoing state, the IC package 2 is mounted and removed.

The push-down operation of the contact shutter member 12 can be performed by the simplest vertical motion of a manipulator of a robot.

The manipulator shown in Fig. 1 includes a push-down force rendering portion 23 for rendering a push-down force to the push-down operation portion 18 and an IC attracting portion 24 disposed at an intermediate portion of the push-down force rendering portion 23. While pushing down the upper surface of the push-down operating portion by the push-down force rendering portion 23, the IC attracting portion 24 attracts the upper surface of the body of the IC package 2 so as to mount it on the IC mounting portion 14 and remove it therefrom. Furthermore, the manipulator includes a pair of positioning pins disposed on both sides of the attracting portion 24 and a wall for defining the IC accommodating window 13 of the contact shutter member 12, for example, the wall for connecting the push-down operating portion 18 is provided with positioning holes 26 corresponding to the positioning pins 25. When the IC package 2 is to be mounted and removed, the positioning pins

25 are correctly brought into the positioning holes 26 by the lowering of the manipulator and the mounting position of the IC package 2 is established with respect to the socket. Thereafter, by releasing the attraction of the IC attracting portion 24, the IC package 2 is mounted on a predetermined position of the IC mounting portion 14 so as to realize the corresponding relation between the contacts 4 and the terminal members 3.

In the above-mentioned construction, there was exemplified a case where the contacts 4 were juxtaposed on the opposite two sides of the IC mounting portion 14 of the socket body 1. However, the present invention is likewise applicable to a case where the contacts 4 are juxtaposed on the opposite two sides and two ends. In this case, the push-down operating portions 18 of the contact shutter member 12 may be disposed on every sides of the IC accommodating window 13 in such a manner as to correspond to the contacts 4 and the positioning holes 26 may be disposed in optional positions of the partition wall including the diagonal lines of the IC accommodating window 13.

When a press force is applied to the pressing force receiving portion extending backward of the contacting piece portion through the cantilever arm and disposed in a higher position than the contact point of the contacting piece portion, the pressing force receiving portion displaces the cantilever arm while displacing the curved spring against its resilience through the cantilever arm and displaces the same backward and downward with the orbit from the position passed the upper dead point of the circle about the contact point of the contacting piece portion toward backward of the side dead point (backward of the contacts) and it can favorably convert the press force into the backward and upward displacement of the contacting piece portion. As a result, the terminal members can be separated apart from the contacting piece portions without fail so as to facilitate the mounting and removing of the IC package.

As the press force can be favorably converted into the backward and upward displacement of the contacting piece portion of the contact by applying a press force to the pressing force receiving portion on the upper position sufficiently separated apart backward of the contacting piece portion through the cantilever arm as mentioned, a sufficient displacing amount of the contact can be ensured by a limited push-down amount of the contact shutter member and the curved spring piece and the cantilever arm which support the contacting piece portion are mutually multiplicatively acted so as to effectively serve them to the backward and downward displacement of the contact.

Furthermore, a harmful component of force for vertically pushing down the contacting piece portion can be effectively prevented from occurring owing to

the multiplicative function of the cantilever arm and the curved spring piece and a correct non-interfering position with respect to the IC package can be obtained. In addition, the push-down operating force can be reduced.

Furthermore, by virtue of the above-mentioned construction, as the push-down operation can be effected in the upper space of the contact without any requirement for inserting the press portion of the contact shutter member deep into the socket body, the present invention contributes to a small size of the device and an easy designing of the device.

Numerous characteristics and advantages of the present invention have been set forth in the foregoing description, together with details of the structure and function of the present invention, and the novel features thereof, are pointed out in the appended claims. The disclosure, however, is illustrative only, and changes may be made within the principle of the present invention, to the full extent indicated by the broad general meaning of the terms in which the appended claims are expressed.

## Claims

1. An IC socket, comprising:
  - a socket body (1) having an IC package accommodating portion (13);
  - a plurality of contacts (4) disposed in said socket body for contacting terminal members (3) of an IC package (2); and
  - a contact shutter member (12) vertically movably mounted on said socket body for pushing said contacts (4) such that said contacts move upward and backward from the terminal members (3) of an IC package upon movement of said contact shutter member toward said socket body;

wherein each said contact comprises a fixing portion (7) for fixing the contact in said socket body, a contacting piece portion (8) for contacting a terminal member, and means for causing said contacting piece portion of said contact to move upward and backward from a first terminal member contact position to a second terminal member non-contact position in response to vertical movement of said contact shutter member toward said socket body, said means comprising a curved spring (6) extending forward toward said IC packaging accommodating portion (13) from said fixing portion (7) to said contacting piece portion (8), said curved spring having a double curve with a first concave portion adjacent said fixing portion (7) facing away from said contacting piece portion (8) and a second concave portion adjacent and facing toward said contacting piece portion (8), and a cantilever arm (10) ex-

tending backward from said contacting piece portion (8), said cantilever arm having a free end comprising a pressing force receiving portion (11) for being pressed by said contact shutter member, said pressing force receiving portion being disposed in a higher position than the contact point of the contacting piece portion;

wherein each said contacting piece portion (8) of said contacts has a forward end (9) projecting forward in the direction of said IC package accommodating portion (13) and said curved spring has a forwardmost portion at said first concave portion extending forward in the direction of said IC package accommodating portion (13), said forward end (9) of said contacting piece portion extending further forward than said forwardmost portion of said curved spring in said first terminal member contact position;

wherein an engagement point of said pressing force receiving portion (11) by said contact shutter member (12), is set higher than a contact point of said contacting piece portion (8) with respect to said terminal members (3); and

wherein a substantially vertically extending member (22) in said socket body has an upper portion defining a terminal member supporting seat and a side portion disposed in front of said curved spring (6) of said contact and defining a forward movement limit point of said curved spring (6), said substantially vertically extending member (22) being an integral part of said contact (7).

2. An IC socket according to Claim 1, wherein:
  - said pressing force receiving portion (11) of said cantilever arm (10) of each said contact is located behind said curved spring (6), with respect to the direction of said IC package accommodating portion (13).

## Patentansprüche

1. Fassung für integrierte Schaltungen, die folgendes umfaßt:
  - einen Fassungskörper (1) mit einem in IC-Gehäuse aufnehmenden Teil (13);
  - eine Mehrzahl von in dem Fassungskörper angeordneten Kontakten (4) zum Kontaktieren von Anschlußgliedern (3) eines IC-Gehäuses (2); und
  - ein in Vertikalrichtung beweglich am Fassungskörper befestigtes Kontaktandrückglied (12) zum Schieben der Kontakte (4) auf eine solche Weise, daß sich die Kontakte bei Bewegung des Kontaktandrückgliedes zum Fassungskörper hin von den Anschlußgliedern (3) eines IC-Gehäuses nach oben und nach hinten bewegen;



the multiplicative function of the cantilever arm and the curved spring piece and a correct non-interfering position with respect to the IC package can be obtained. In addition, the push-down operating force can be reduced.

Furthermore, by virtue of the above-mentioned construction, as the push-down operation can be effected in the upper space of the contact without any requirement for inserting the press portion of the contact shutter member deep into the socket body, the present invention contributes to a small size of the device and an easy designing of the device.

Numerous characteristics and advantages of the present invention have been set forth in the foregoing description, together with details of the structure and function of the present invention, and the novel features thereof, are pointed out in the appended claims. The disclosure, however, is illustrative only, and changes may be made within the principle of the present invention, to the full extent indicated by the broad general meaning of the terms in which the appended claims are expressed.

## Claims

### 1. An IC socket, comprising:

a socket body (1) having an IC package accommodating portion (13);

a plurality of contacts (4) disposed in said socket body for contacting terminal members (3) of an IC package (2); and

a contact shutter member (12) vertically movably mounted on said socket body for pushing said contacts (4) such that said contacts move upward and backward from the terminal members (3) of an IC package upon movement of said contact shutter member toward said socket body;

wherein each said contact comprises a fixing portion (7) for fixing the contact in said socket body, a contacting piece portion (8) for contacting a terminal member, and means for causing said contacting piece portion of said contact to move upward and backward from a first terminal member contact position to a second terminal member non-contact position in response to vertical movement of said contact shutter member toward said socket body, said means comprising a curved spring (6) extending forward toward said IC packaging accommodating portion (13) from said fixing portion (7) to said contacting piece portion (8), said curved spring having a double curve with a first concave portion adjacent said fixing portion (7) facing away from said contacting piece portion (8) and a second concave portion adjacent and facing toward said contacting piece portion (8), and a cantilever arm (10) ex-

tending backward from said contacting piece portion (8), said cantilever arm having a free end comprising a pressing force receiving portion (11) for being pressed by said contact shutter member, said pressing force receiving portion being disposed in a higher position than the contact point of the contacting piece portion;

wherein each said contacting piece portion (8) of said contacts has a forward end (9) projecting forward in the direction of said IC package accommodating portion (13) and said curved spring has a forwardmost portion at said first concave portion extending forward in the direction of said IC package accommodating portion (13), said forward end (9) of said contacting piece portion extending further forward than said forwardmost portion of said curved spring in said first terminal member contact position;

wherein an engagement point of said pressing force receiving portion (11) by said contact shutter member (12), is set higher than a contact point of said contacting piece portion (8) with respect to said terminal members (3); and

wherein a substantially vertically extending member (22) in said socket body has an upper portion defining a terminal member supporting seat and a side portion disposed in front of said curved spring (6) of said contact and defining a forward movement limit point of said curved spring (6), said substantially vertically extending member (22) being an integral part of said contact (7).

### 2. An IC socket according to Claim 1, wherein:

said pressing force receiving portion (11) of said cantilever arm (10) of each said contact is located behind said curved spring (6), with respect to the direction of said IC package accommodating portion (13).

## Patentansprüche

### 1. Fassung für integrierte Schaltungen, die folgendes umfaßt:

einen Fassungskörper (1) mit einem in IC-Gehäuse aufnehmenden Teil (13);

eine Mehrzahl von in dem Fassungskörper angeordneten Kontakten (4) zum Kontaktieren von Anschlußgliedern (3) eines IC-Gehäuses (2); und

ein in Vertikalrichtung beweglich am Fassungskörper befestigtes Kontaktandrückglied (12) zum Schieben der Kontakte (4) auf eine solche Weise, daß sich die Kontakte bei Bewegung des Kontaktandrückgliedes zum Fassungskörper hin von den Anschlußgliedern (3) eines IC-Gehäuses nach oben und nach hinten bewegen;



wobei jeder Kontakt einen Befestigungsteil (7) zum Befestigen des Kontakts im Fassungskörper, ein Kontaktierungsstückteil (8) zum Kontaktieren eines Anschlußgliedes und ein Mittel zum Bewirken, daß sich das Kontaktierungsstückteil des Kontaktes als Reaktion auf eine Vertikalbewegung des Kontaktandrückgliedes zum Fassungskörper hin von einer ersten Anschlußgliedkontaktposition zu einer zweiten kontaktfreien Anschlußgliedposition nach oben und nach hinten bewegt, umfaßt, wobei das Mittel eine gekrümmte Feder (6) umfaßt, die sich von dem Befestigungsteil (7) zum Kontaktierungsstückteil (8) nach vorne zu dem das IC-Gehäuse aufnehmenden Teil (13) hin erstreckt, wobei die gekrümmte Feder eine doppelte Krümmung mit einem ersten konkaven Teil neben dem Befestigungsteil (7), der von dem Kontaktierungsstückteil (8) wegweist, und einem zweiten konkaven Teil neben dem Kontaktierungsstückteil (8) und zu diesem hinweisend, und einen sich von dem Kontaktierungsstückteil (8) nach hinten erstreckenden, auskragenden Arm (10) aufweist, der ein freies Ende mit einem die Anpreßkraft aufnehmenden Teil (11), um von dem Kontaktandrückglied gepreßt zu werden, aufweist, wobei der die Anpreßkraft aufnehmende Teil in einer höheren Position als der Kontaktpunkt des Kontaktierungsstückteils angeordnet ist,

wobei jeder Kontaktierungsstückteil (8) der Kontakte ein nach vorne in Richtung des das IC-Gehäuse aufnehmenden Teils (13) vorstehendes Vorderende (9) aufweist und die gekrümmte Feder an dem sich nach vorne in Richtung des das IC-Gehäuse aufnehmenden Teils (13) erstreckenden ersten konkaven Teil einen ganz vorne liegenden Teil hat, wobei sich das Vorderende (9) des Kontaktierungsstückteils weiter nach vorne erstreckt als der ganz vorne liegende Teil der gekrümmten Feder in der ersten Anschlußgliedkontaktposition;

wobei ein Eingriffspunkt des die Anpreßkraft aufnehmenden Teils (11) von dem Kontaktandrückglied (12) höher eingestellt ist als ein Kontaktpunkt des Kontaktierungsstückteils (8) gegenüber den Anschlußgliedern (3); und

wobei ein sich im wesentlichen senkrecht erstreckendes Glied (22) in dem Fassungskörper einen einen Haltesitz für ein Anschlußglied definierenden oberen Teil und einen vor der gekrümmten Feder (6) des Kontaktes angeordneten Seitenteil aufweist, der einen Vorwärtsbewegungsbegrenzungspunkt der gekrümmten Feder (6) definiert, wobei das sich im wesentlichen senkrecht erstreckende Glied (22) ein Bestandteil des Kontaktes (7) ist.

## 2. Fassung für integrierte Schaltungen nach Anspruch 1, bei der sich der die Anpreßkraft aufnehmende Teil (11) des auskragenden Armes (10) jedes Kontaktes im Verhältnis zur Richtung des das IC-Gehäuse aufnehmenden Teils (13) hinter der gekrümmten Feder (6) befindet.

## Revendications

1. Un socle pour circuits intégrés, comprenant:
  - un corps de socle (1) ayant une partie (13) recevant un ensemble de circuits intégrés;
  - une pluralité de contacts (4) disposés dans ledit corps de socle pour toucher des éléments de borne (3) d'un ensemble de circuits intégrés (2); et
  - un élément (12) de pression des contacts monté de façon mobile verticalement sur ledit corps de socle pour pousser lesdits contacts (4) de telle manière que lesdits contacts se déplacent vers le haut et vers l'arrière à partir des éléments de borne (3) d'un ensemble de circuits intégrés lors d'un mouvement dudit élément de pression des contacts vers ledit corps de socle;
  - dans lequel chacun desdits contacts comprend une partie de fixation (7) pour fixer le contact dans ledit corps de socle, une partie de pièce de contact (8) pour toucher un élément de borne, et des moyens pour entraîner ladite partie de pièce de contact dudit contact à se déplacer vers le haut et vers l'arrière à partir d'une première position de contact de l'élément de borne jusqu'à une deuxième position de non-contact de l'élément de borne en réponse à un mouvement vertical dudit élément de pression des contacts vers ledit corps de socle, lesdits moyens comprenant un ressort courbe (6) s'étendant en avant vers ladite partie (13) recevant un ensemble de circuits intégrés à partir de ladite partie de fixation (7) jusqu'à ladite partie de pièce de contact (8), ledit ressort courbe ayant une double courbe avec une première partie concave adjacente à ladite partie de fixation (7) faisant face à l'opposé de ladite partie de pièce de contact (8) et une deuxième partie concave adjacente et faisant face à ladite partie de pièce de contact (8), et un bras en porte-à-faux (10) s'étendant vers l'arrière à partir de ladite partie de pièce de contact (8), ledit bras en porte-à-faux ayant une extrémité libre comprenant une partie (11) recevant une force de pression destinée à être pressée par ledit élément de pression des contacts, ladite partie recevant une force de pression étant disposée dans une position plus élevée que le point de contact de ladite partie de pièce de contact;
  - dans lequel chaque dite partie de pièce de contact (8) desdits contacts a une extrémité antérieure (9) se projetant vers l'avant dans la direc-



tion de ladite partie (13) recevant un ensemble de circuits intégrés et ledit ressort courbe a une partie plus antérieure de ladite première partie concave s'étendant vers l'avant dans la direction de ladite partie (13) recevant un ensemble de circuits intégrés, ladite extrémité antérieure (9) de ladite partie de pièce de contact s'étendant plus loin que ladite partie plus antérieure dudit ressort courbe dans ladite première position de contact de l'élément de borne;

dans lequel un point de contact de ladite partie (11) recevant une force de pression avec ledit élément (12) de pression des contacts, est situé plus haut qu'un point de contact de ladite partie de pièce de contact (8) par rapport auxdits éléments de borne (3); et

dans lequel un élément (22) s'étendant substantiellement à la verticale dans ledit corps de socle a une partie supérieure définissant un siège de support des éléments de borne et une partie latérale disposée en face dudit ressort courbe (6) dudit contact et définissant un point de limite du mouvement vers l'avant dudit ressort courbe (6), ledit élément (22) s'étendant substantiellement à la verticale étant une partie intégrante dudit contact (7).

**2. Un socle pour circuits intégrés suivant la revendication 1, dans lequel :**

ladite partie (11) recevant une force de pression dudit bras en porte-à-faux (10) de chacun desdits contacts est située derrière ledit ressort courbe (6), par rapport à la direction de ladite partie (13) recevant un ensemble de circuits intégrés.

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