US 2011/ 0 132 396 A1 discloses a cleaning material for cleaning contact elements and carrier structures of test interfaces, for example of test sockets, which are used for functional tests of semiconductor components. The cleaning material comprises a cleaning layer, beneath which several intermediary layers are arranged that support the cleaning layer. By means of the cleaning material it is possible to remove dirt build-up from the contact elements and from the carrier structures.

DE 10 2008 029 129 A1 discloses a contacting device for contacting electronic components, in particular ICs, by means of contact springs of a contact socket. A belt cleaning device with a belt movement mechanism and a cleaning belt is provided, which cleaning belt is guided over the contact springs of the contact socket. The cleaning belt comprises at least one recess, through which a component can be fed, and at least one cleaning region, which on its side facing the contact springs comprises an adhesive layer.

US 2007/ 0 205 753 A1 discloses a method for cleaning contact pins of an automatic test device, wherein a replacement cleaning device is inserted in a test socket in order to clean the contact pins by means of a cleaning agent.

It is the object of the present invention to provide a device for testing electronic components according to the precharacterising part of claim 1, which device minimises, or entirely overcomes, the disadvantages of the known devices.

According to one embodiment of the invention, there is provided a device for testing electronic components with at least one test socket with test contacts, with a nest in which at least one electronic component can be placed, and with at least one cleaning unit for the test contacts of the test socket, wherein by means of a relative movement, which can be carried out as a test stroke,

between the test socket and the nest the electronic component can be pressed against, and lifted from, the test contacts of the test socket, characterised in that the at least one cleaning unit is designed in such a manner that during each test stroke the test contacts come into contact with the at least one cleaning unit.

According to the invention, the object is met by a device for testing electronic components, which device comprises the features of claim 1. Because the at least one cleaning unit is designed in such a manner that during each test stroke the test contacts come into contact with the at least one cleaning unit, the test contacts are cleaned before and/or after each test, and consequently

Claims

1. A device for testing electronic components ~~(4)~~ with at least one test socket ~~(1)~~ with test contacts ~~(2)~~, with a nest ~~(3)~~ in which at least one electronic component ~~(4)~~ can be placed, and with at least one cleaning unit ~~(6, 7; 8, 9; 10, 7, 9)~~ for the test contacts ~~(2)~~ of the test socket ~~(1)~~, wherein by means of a relative movement, which can be carried out as a test stroke, between the test socket ~~(1)~~ and the nest ~~(3)~~ the electronic component ~~(4)~~ can be pressed against, and lifted from, the test contacts ~~(2)~~ of the test socket ~~(1)~~,
characterised in that
the at least one cleaning unit ~~(6, 7; 8, 9; 10, 7, 9)~~ is designed in such a manner that during each test stroke the test contacts ~~(2)~~ come into contact with the at least one cleaning unit ~~(6, 7; 8, 9; 10, 7, 9)~~.

2. The device as set forth in claim 1, characterised in that
the at least one cleaning unit ~~(6, 7; 8, 9; 10, 7, 9)~~ is mounted in such a manner that it moves together with the nest ~~(3)~~.

3. The device as set forth in claim 2, characterised in that
the at least one cleaning unit ~~(6, 7; 8, 9)~~ is mounted to the nest ~~(3)~~ or to a stamp that moves the nest ~~(3)~~.

4. The device as set forth in claim 2, characterised in that
the electronic component ~~(4)~~ is fixed in the nest ~~(3)~~ by means of a holding element ~~(12)~~, and in that the at least one cleaning unit ~~(10, 7, 9)~~ is fixed to the holding element ~~(12)~~.

5. The device as set forth in claim 1, characterised in that the at least one cleaning unit ~~(10, 7, 9)~~ is movably attached to the test socket ~~(3)~~.

6. The device as set forth in claim 5, characterised in that the at least one cleaning unit ~~(10, 7, 9)~~ is movable towards the test socket ~~(3)~~ against the force of an elastic element ~~(11)~~.

7. The device as set forth in any one of claims 5 to 6, characterised in that the at least one cleaning unit ~~(10, 7, 9)~~ is moved by the nest ~~(3)~~ or by components ~~(4)~~ coupled to the nest ~~(3)~~.

8. The device as set forth in any one of claims 1 to 7, characterised in that the at least one cleaning unit ~~(6, 7; 8, 9; 10, 7, 9)~~ comprises a basic body ~~(6; 8; 10)~~ and at least one contact module ~~(7; 9; 7, 9)~~.

9. The device as set forth in claim 8, characterised in that the at least one contact module ~~(7; 9; 7, 9)~~ comprises bristles.

10. The device as set forth in claim 8, characterised in that the at least one contact module ~~(7; 9; 7, 9)~~ comprises an elastic plastic material, wherein a surface of the at least one contact module ~~(7; 9; 7, 9)~~, which surface cleans the test contacts ~~(2)~~, has a predetermined roughness.

11. The device as set forth in any one of claims 1 to 10, characterised in that the at least one cleaning unit ~~(6, 7; 8, 9; 10, 7, 9)~~ is exchangeable.

12. The device as set forth in any one of claims 8 to 11, characterised in that the at least one contact module ~~(7; 9; 7, 9)~~ is exchangeable.