

[0112] In this example in FIG. 2A, the first contact layer 2 is in whole-area fashion. In particular, the first contact layer 2 extends virtually over the entire lateral extent of the semiconductor body 1.

[0113] The first Contact layer 2 has an electrical connection region 201. The connection region 201 is suitable for making electrical contact, with the semiconductor body 1 at the radiation exit side thereof.

[0114] The second contact layer 3 is structured in the form of pixels 301. In the example in FIG. 2A, the pixels 301 of the second contact layer 3 are arranged in a two-dimensional seven-segment display. A seven-segment display is suitable, in particular, for representing numbers from 0 to 9.

[0115] The second contact layer 3 in the example in FIG. 2A is, as illustrated in the example in FIG. 1, arranged between the first contact layer 2 and the semiconductor body 1.

[0116] For the sake of clarity, in each of the examples in FIGS. 2A to 2C, the arrangement of the first contact layer 2, the second contact layer 3 and the semiconductor body 1 is illustrated such that, in particular, the second contact layer 3 is shown.

[0117] The second contact layer 3 has a plurality of electrical connection pads 303. In this example, the second contact layer 3 has seven electrical connection pads 303. A pixel 301 of the second contact layer 3 is in each case electrically conductively connected to a connection pad 303. In particular, each pixel 301 is connected to a respective electrical connection pad 303 separately via a conductor track 304 arranged below the pixels 301.

[0118] Partial regions 203 of the first contact layer 2 are led through openings 302 in the second contact layer 3. In particular, the partial regions 203 of the first contact layer 2 are led through the openings 302 in the second contact layer 3 in a manner electrically insulated from the second contact layer 3. As illustrated in FIG. 1, the partial regions 203 of the first contact layer 2 lead in an electrically insulated manner through openings in the second contact layer 3 and through perforations in the active layer 101.

[0119] For electrically insulating the first and second contact layers 2, 3 from one another, an electrically insulating separating layer is arranged between the first contact layer 2 and the second contact layer 3 (not illustrated).

[0120] The first contact layer 2 has an electrical connection region 201 for the purpose of making electrical contact.

[0121] Alternatively, there is the possibility that the first contact layer 2 does not have such an electrically conductive connection region 201, but rather is directly electrically conductively connected to an electrically conductive carrier (not illustrated). Such a carrier therefore makes it possible to make contact with the contact layer 2 from the rear side 103.

[0122] FIG. 2B shows a further longitudinal section of an example of a projection device. In this example, the first contact layer 2 is structured in the form of structures 202, in particular in strip-shaped fashion. Accordingly, the first contact layer 2 is not formed in whole-area fashion, but rather has structures 202 electrically insulated from one another.

[0123] Furthermore, the first contact layer 2 has a plurality of electrical connection regions 201. A structure 202 of the first contact layer 2 is in each case electrically conductively connected to an electrical connection region 201. Consequently, the structures 202 of the first contact layer 2 can be electrically driven separately from one another in each case via an electrical connection region 201.

[0124] The second contact layer 3 is structured in the form of pixels 301, wherein the pixels 301 are arranged in a two-dimensional regular matrix composed of n rows and m columns. The pixels 301 are arranged, in particular, on the strip-shaped structures 202 of the first contact layer 2. In particular, the pixels 301 which are in each case situated in a common series are electrically conductively connected to an electrically conductive connection pad 303 jointly via a respective conductor track 304. In particular, the second contact layer 3 has h electrical connection pads 303 in the case of a matrix arrangement of the pixels 301 comprising n rows. By virtue of the fact that the pixels 301 are electrically conductively connected in rows separately in each case to an electrical connection pad 303 of the second contact layer and in columns separately to a respective electrical connection region 201 of the first contact layer 2, each pixel 301 can be electrically driven separately.

[0125] If, by way of example, only one column of the first contact layer 2 and only one row of the second contact layer 3 is driven in an electrically conductive manner, then electrical contact is made with only one pixel 301. An interconnection of pixels 301 that can be individually electrically driven by one another on the rear side of the semiconductor body 1 is thereby made possible. By corresponding driving of the individual pixels 301 on the semiconductor body 1, differently luminous images such as, for example, pictograms, letters and/or letterings can thus be generated and imaged onto a closely positioned projection area by a lens or a lens system. A projection device which can project flexible images is advantageously made possible.

[0126] As in the example with regard to FIG. 2A, partial regions 203 of the first contact layer 2 lead in an electrically insulated manner through the second contact layer 3 and through the semiconductor body to the radiation exit side of the semiconductor body 1.

[0127] FIG. 2C shows a further example of a projection device.

[0128] As in the example with regard to FIG. 2A, in this example in FIG. 2C, the first contact layer 2 is a whole-area arrangement. In contrast to the example in FIG. 2A, the second contact layer 3 has structures 301b in each case in the form of a pictogram or character. A structure 301b is in each case electrically conductively connected to an electrical connection pad 303 of the second contact layer 3 via a respective conductor track 304. Consequently, each structure 301b of the second contact layer 3 can be electrically driven separately.

[0129] The arrangement of the electrical connection pads 303 at the rear side of the semiconductor body 1 affords the advantage that, as a result, a plurality of semiconductor bodies 1 can be arranged closely alongside one another and the projection of a plurality of characters, character strings or letterings is thus made possible. In this case, it is possible to use a separate lens system or a separate lens per semiconductor body 1 or a common lens system or a common lens for all the semiconductor bodies 1.

[0130] The example in FIG. 3 illustrates a projection device exhibiting a semiconductor body 1, an optical element 5 and a projection area 7. The projection device in the example in FIG. 3 is part of an electronic component 6, for example of a mobile telephone, laptop, PDA, computer, clock or alarm clock. The electronic component 6 is preferably a portable component.