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Reeh et al.

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(54) **LIGHT-RADIATING SEMICONDUCTOR COMPONENT WITH A LUMINESCENCE CONVERSION ELEMENT**

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(75) Inventors: **Ulrike Reeh**, München (DE); **Klaus Höhn**, Taufkirchen (DE); **Norbert Stath**, Regensburg (DE); **Günter Waitl**, Regensburg (DE); **Peter Schlotter**, Freiburg (DE); **Jürgen Schneider**, Kirchzarten (DE); **Ralf Schmidt**, Vörstetten (DE)

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(73) Assignee: **Osram GmbH** (DE)

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

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Related U.S. Application Data

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Primary Examiner—Jerome Jackson

(74) *Attorney, Agent, or Firm*—Fish & Richardson P.C.

(57) **ABSTRACT**

(51) **Int. Cl.**
H01L 33/00 (2006.01)

The light-radiating semiconductor component has a radiation-emitting semiconductor body and a luminescence conversion element. The semiconductor body emits radiation in the ultraviolet, blue and/or green spectral region and the luminescence conversion element converts a portion of the radiation into radiation of a longer wavelength. This makes it possible to produce light-emitting diodes which radiate polychromatic light, in particular white light, with only a single light-emitting semiconductor body. A particularly preferred luminescence conversion dye is YAG:Ce.

(52) **U.S. Cl.** **257/98**; 257/89

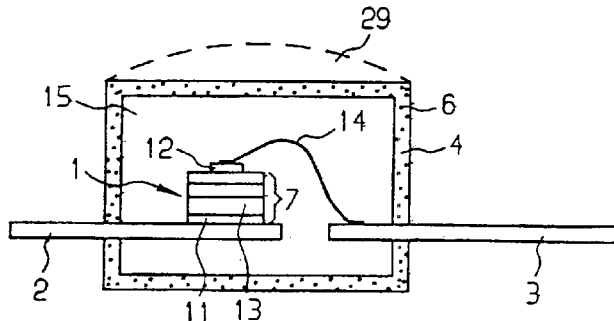
(58) **Field of Classification Search** 257/89,
257/98

See application file for complete search history.

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33 Claims, 6 Drawing Sheets



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FIG 1

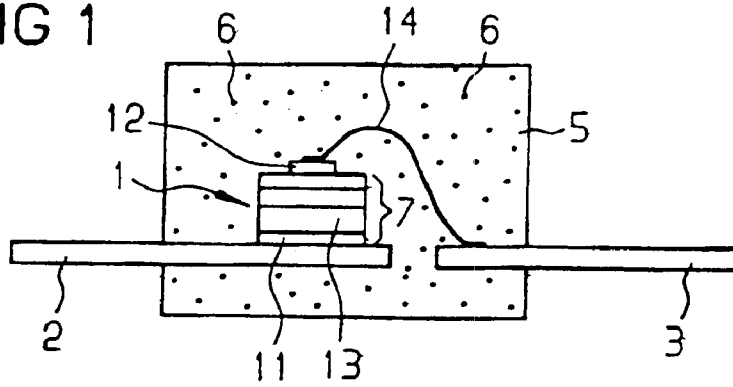


FIG 2

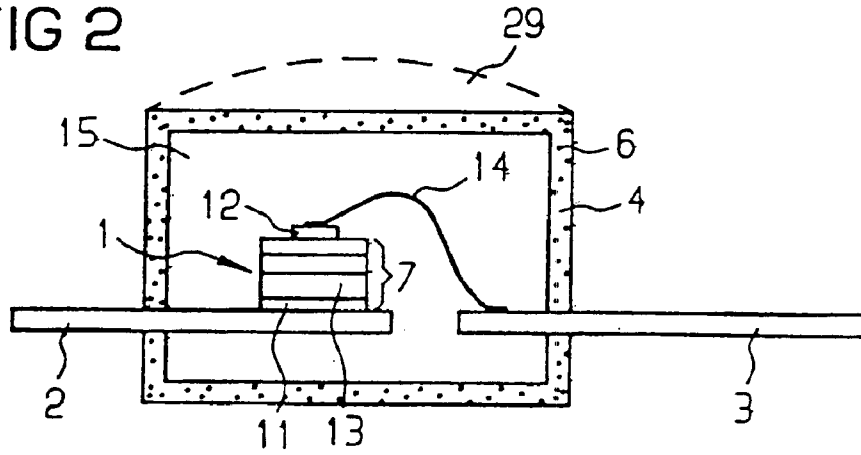
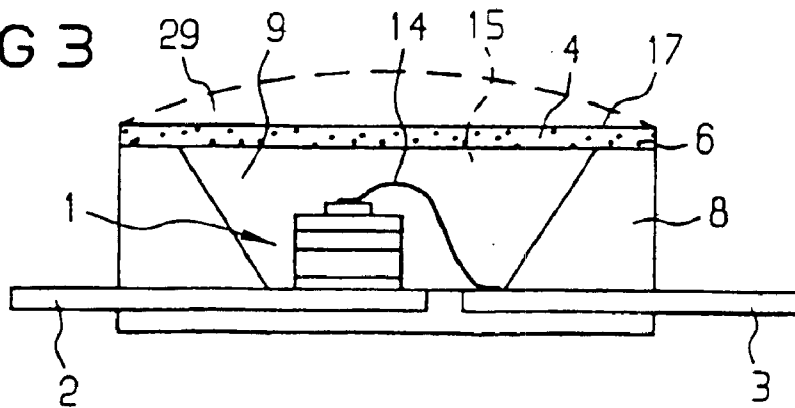


FIG 3



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