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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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(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.

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Related U.S. Application Data

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Foreign Application Priority Data

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(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

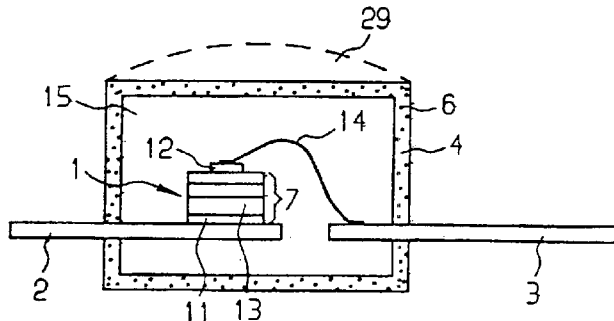
See application file for complete search history.

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33 Claims, 6 Drawing Sheets



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FIG 1

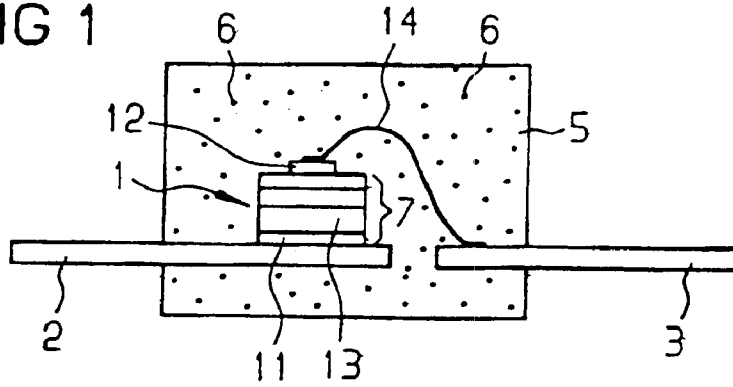


FIG 2

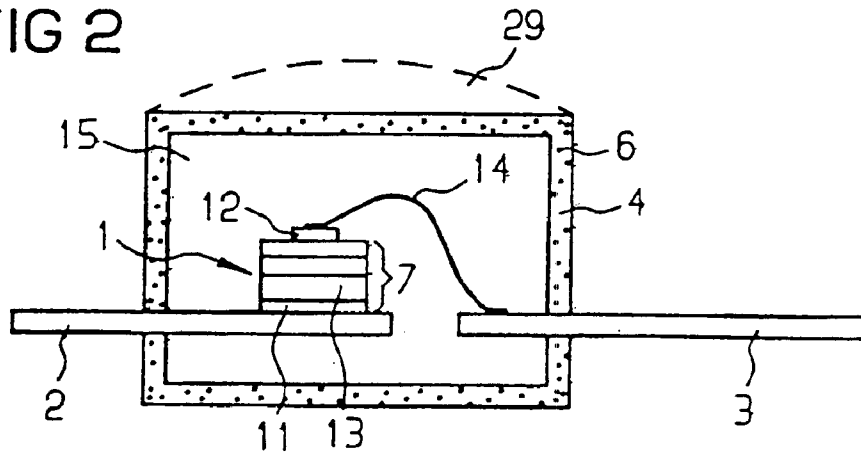
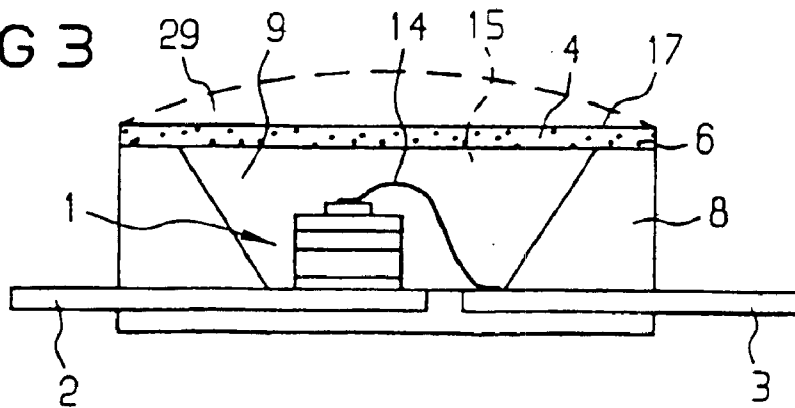


FIG 3



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