



US007078732B1

(12) **United States Patent**
Reeh et al.

(10) **Patent No.:** **US 7,078,732 B1**
(45) **Date of Patent:** ***Jul. 18, 2006**

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

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

(*) 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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This patent is subject to a terminal disclaimer.

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(21) Appl. No.: **09/221,789**

(22) Filed: **Dec. 28, 1998**

Related U.S. Application Data

(63) Continuation of application No. PCT/DE97/01337, filed on Jun. 26, 1997.

Foreign Application Priority Data

Jun. 26, 1996 (DE) 196 25 622
Sep. 20, 1996 (DE) 196 38 667

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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.

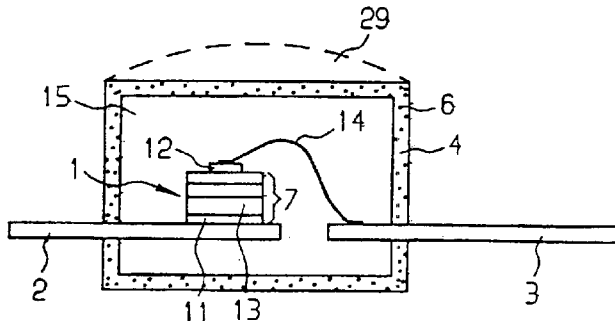
(52) **U.S. Cl.** **257/98**; 257/89

(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

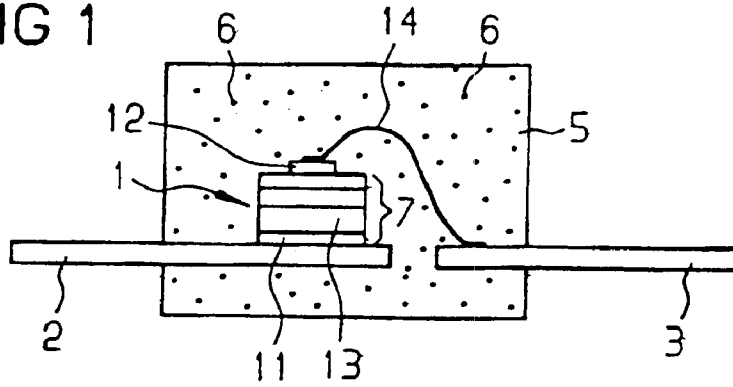


FIG 2

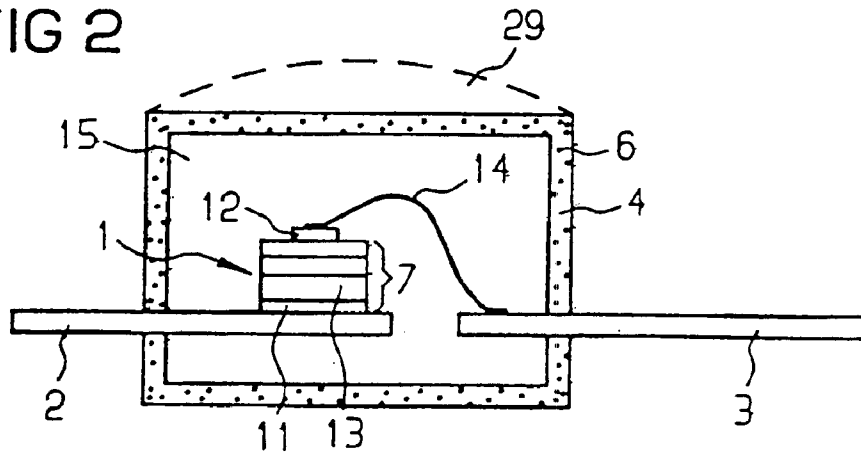
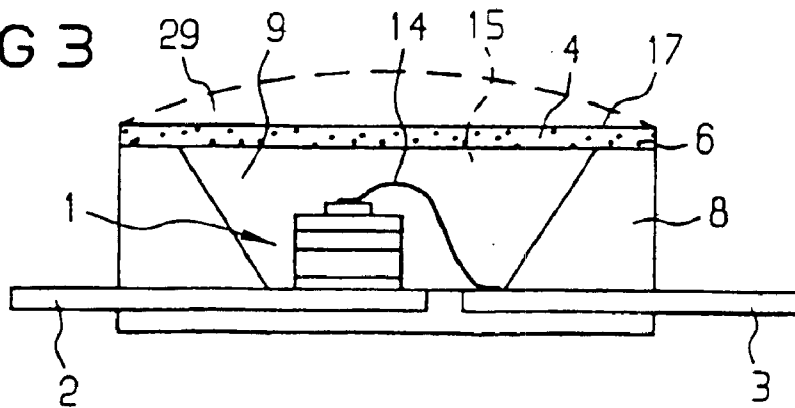


FIG 3



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