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## (54) EL display device and a method of manufacturing the same

(57) To provide an inexpensive EL display device of high definition. An anode, a light emitting layer, and a cathode are formed on a substrate, and selective doping using at least one selected from the group consisting of an alkali metal element, an alkaline earth metal element and a halogen element is then performed to form at least ones of electron transmitting regions and hole transmitting regions. In such a structure, only a part of the light emitting layer, where at least ones of the electron transmitting regions and the hole transmitting regions are formed, emits light when a given voltage is applied to the light emitting layer, whereby images are displayed as desired.

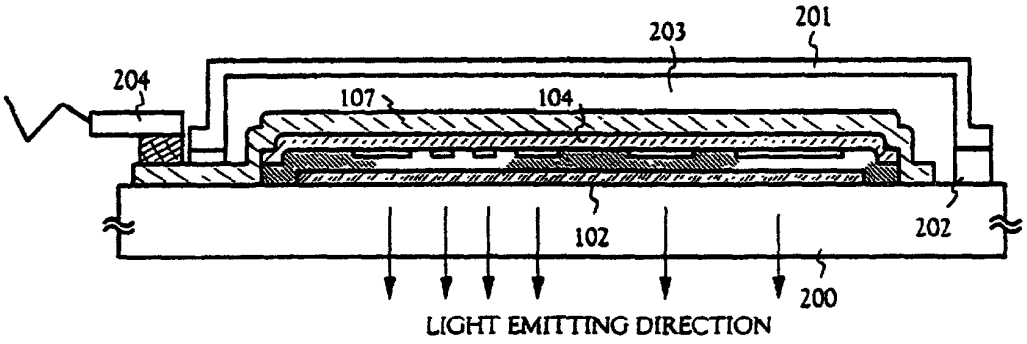


FIG. 2

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# EUROPEAN SEARCH REPORT

Application Number
EP 00 11 5503

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The present search report has been drawn up for all claims

| Place of search | Date of completion of the search | Examiner |
|---|---|---|
| THE HAGUE | 20 February 2004 | Faou, M |

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

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|---|---|---|---|
| 专利名称(译) | EL显示装置及其制造方法 | | |
| 公开(公告)号 | EP1071145A3 | 公开(公告)日 | 2004-04-14 |
| 申请号 | EP2000115503 | 申请日 | 2000-07-18 |
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| IPC分类号 | H05B33/10 H01L27/32 H01L51/50 H01L51/52 H01L51/56 H05B33/14 H05B33/22 H05B33/26 H01L51/20 H01L27/15 | | |
| CPC分类号 | H01L27/3239 H01L27/3244 H01L27/3281 H01L51/5088 H01L51/5092 H01L51/5228 H01L51/524 H01L51/5253 H01L51/56 Y10S428/917 | | |
| 优先权 | 1999209203 1999-07-23 JP | | |
| 其他公开文献 | EP1071145B1<br>EP1071145A2 | | |
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摘要(译)

提供一种廉价的高清晰度EL显示器件。在基板上形成阳极，发光层和阴极，然后使用选自碱金属元素，碱土金属元素和卤素元素中的至少一种进行选择性掺杂以形成电子传输区域和空穴传输区域中的至少一个。在这种结构中，当给定电压施加到发光层时，仅形成电子传输区域和空穴传输区域中的至少一个的发光层的一部分发光，由此图像显示为期望。


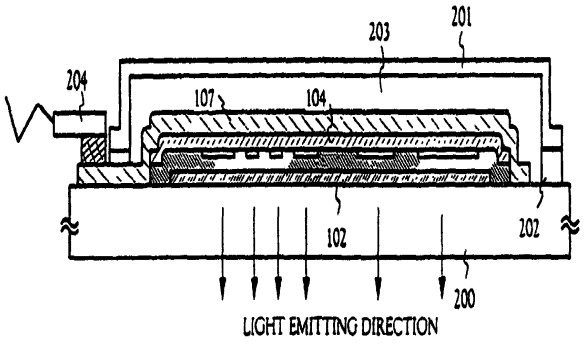


FIG. 2