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- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
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Declarations under Rule 4.17:

- as to the identity of the inventor (Rule 4.17(i))
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

[Continued on next page]

(54) **Title:** MULTI-DIE LED PACKAGE AND BACKLIGHT UNIT USING THE SAME

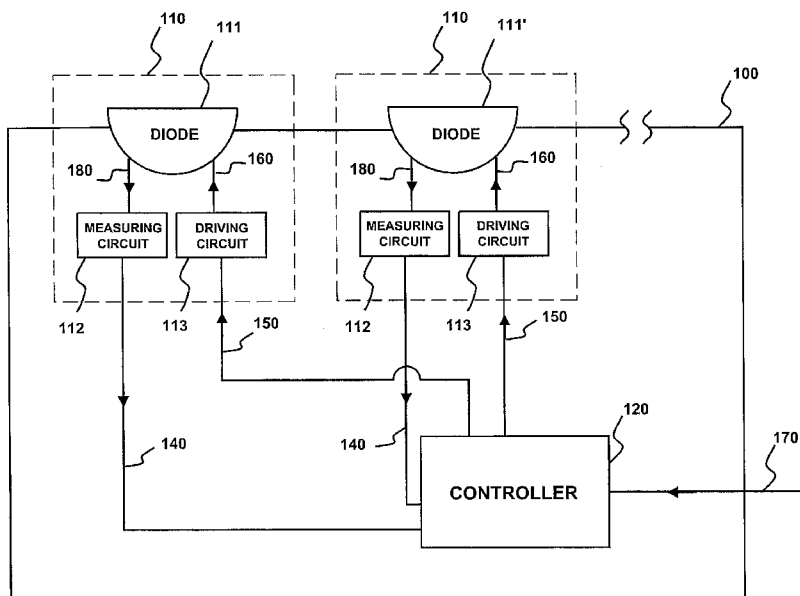


FIGURE 1

(57) **Abstract:** A multi-die LED package comprises a diode that works as a light-emitting diode for emitting light and as a sensing diode for detecting at least one physical quantity. The multi-die LED package is able to provide desired luminance and color independent of aging, temperature or other effects.

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- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))* — *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*
- *of inventorship (Rule 4.17(iv))*

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- *with international search report (Art. 21(3))*

INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
INV. H05B33/08
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
H05B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2008/152922 A1 (SHARP KK [JP]; ROSHAN RAKESH; HADWEN BENJAMIN JAMES; MONTGOMERY DAVID) 18 December 2008 (2008-12-18) pages 19-33; figures 11, 12, 13 -----	1-9,11, 12,19,20
X	WO 2007/057822 A1 (KONINKL PHILIPS ELECTRONICS NV [NL]; IJZERMAN WILLEM L [NL]) 24 May 2007 (2007-05-24) pages 2-4; figures 6a, 6b -----	1-9,11, 12,19,20
X	US 2006/262530 A1 (SAKAI SEIJI [JP] ET AL) 23 November 2006 (2006-11-23) paragraph [0024] - paragraph [0061] -----	1-9,11, 12,19,20
X	US 2006/028156 A1 (JUNGWIRTH PAUL [CA]) 9 February 2006 (2006-02-09) paragraph [0026] - paragraph [0038]; figure 4 -----	1-9,11, 12,19,20
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Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search 27 January 2011	Date of mailing of the international search report 02/02/2011
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Morrish, Ian

INTERNATIONAL SEARCH REPORT

International application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 102 39 449 A1 (KUIPERS ULRICH [DE]) 7 August 2003 (2003-08-07) paragraph [0006] - paragraph [0014] -----	1-12, 19, 20
X	WO 2007/079423 A2 (DIALIGHT CORP [US]; CURRAN JOHN [US]; PECK JOHN [US]; GOLDSTEIN PETER) 12 July 2007 (2007-07-12) paragraph [0017] - paragraph [0048] -----	13-18
X	EP 2 017 890 A2 (CFG SA [CH]) 21 January 2009 (2009-01-21) column 3 - column 6 -----	13-18
X	US 2008/077363 A1 (ABDULAEV RUSTAM [KR] ET AL) 27 March 2008 (2008-03-27) page 2 - page 7 -----	13-18

INTERNATIONAL SEARCH REPORT

International application No.
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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-12, 19, 20

Measurements on LED

2. claims: 13-18

Two different colour temperatures

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2010/036067

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
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EP 2017890	A2	21-01-2009	NONE	

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