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(71) Applicant (for all designated States except US): **NXP B.V.**
[NL/NL]; High Tech Campus 60, NL-5656 AG Eindhoven (NL).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **HOOGZAAD, Gian**
[NL/NL]; c/o NXP Semiconductors, IP Department, HTC 60 1.31 Prof Holstlaan 4, NL-5656 AG Eindhoven (NL).

(74) Agent: **VAN DER VEER, Johannis, L.**; c/o NXP Semiconductors, IP Department, HTC 60 1.31 Prof Holstlaan 4, NL-5656 AG Eindhoven, (NL).

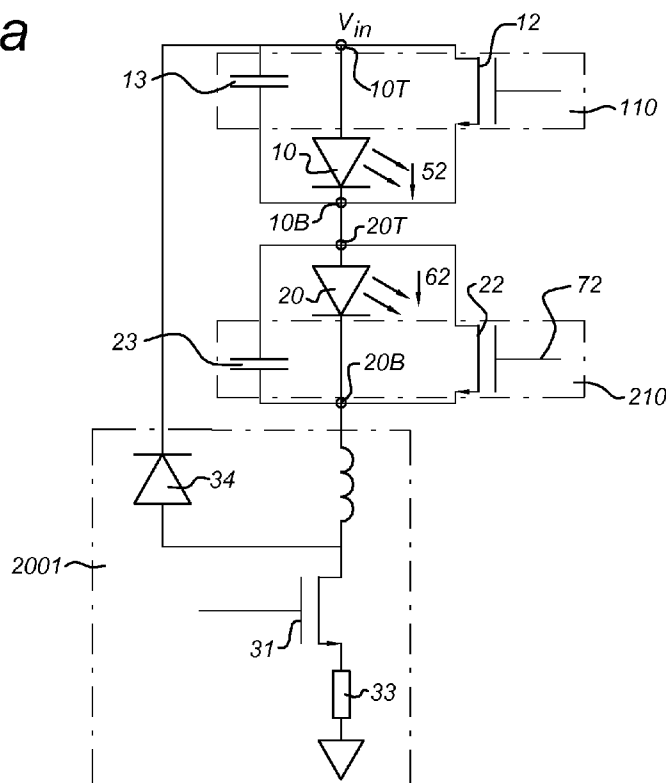
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[Continued on next page]

(54) Title: LED ARRANGEMENT WITH BYPASS DRIVING

Fig 5a



(57) Abstract: The invention provides a LED arrangement including a LED string of a series arrangement of LED segments. A LED segment includes a single LED or a series arrangement of LEDs. A switching element (12, 22) is arranged in parallel with each corresponding LED segment (10, 20) of the LED string, for controlling a current (52, 62) through the LED segment (10, 20). A capacitor (13, 23) is arranged in parallel with each corresponding LED segment (10, 20) in order to prevent the occurrence of possibly harmful current spikes while switching one or more LED segments. The LED arrangement may also include a switched-mode power supply (2001). The invention further provides a LED assembly. A plurality of such LED assemblies assemble easily into a LED arrangement according to the invention.



Declaration under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

Published:

- *with international search report*
- (88) **Date of publication of the international search report:**
7 May 2009

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2008/052864

A. CLASSIFICATION OF SUBJECT MATTER
INV. H05B33/08

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.
Y	WO 2007/069200 A (KONINKL PHILIPS ELECTRONICS NV [NL]; VAN ERP JOSEPHUS A M [NL]) 21 June 2007 (2007-06-21) page 1, line 15 - page 2, line 20 page 3, line 22 - page 7, line 21 figures 3a,3b,4,5	1,2,4-9
Y	US 2005/218838 A1 (LYS IHOR A [US]) 6 October 2005 (2005-10-06) paragraphs [0084] - [0087] paragraphs [0266] - [0268] figure 26	1,2,4-9
A	US 2006/261752 A1 (LEE SANG Y [KR] LEE SANG YUN [KR]) 23 November 2006 (2006-11-23) the whole document	1-10
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Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

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- *E* earlier document but published on or after the international filing date
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- *O* document referring to an oral disclosure, use, exhibition or other means
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- *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.
- *8* document member of the same patent family

Date of the actual completion of the international search

15 January 2009

Date of mailing of the international search report

23/03/2009

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

João Carlos Silva

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.
A	US 2006/261754 A1 (LEE SANG Y [KR]) 23 November 2006 (2006-11-23) the whole document -----	1-10

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2008/052864

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 allsearchable 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 reportcovers 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.:

1 - 10

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: 1-10

LED arrangement comprising a LED string and a driver circuit arrangement and method of driving the LED.

2. claims: 11-18

a LED assembly comprising a LED and a capacitor in the same die.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2008/052864

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