

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
14 April 2005 (14.04.2005)

PCT

(10) International Publication Number
WO 2005/034589 A3

(51) International Patent Classification⁷: H05K 9/00,
B32B 15/08

Newburyport, Massachusetts 01950 (US). JOHNSON, Andrew O. [US/US]; 31 Winthrop Street, Danvers, MA 01923 (US). BOUCHARD, Guy P. [US/US]; 32 Pratt Avenue, Beverly, MA 01915 (US).

(21) International Application Number:
PCT/US2004/032528

(74) Agent: CASTEL, Benoit; c/o Young & Thompson, 745 South 23rd Street, Suite 200, Arlington, VA 22202 (US).

(22) International Filing Date: 4 October 2004 (04.10.2004)

(25) Filing Language: English

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

(26) Publication Language: English

(30) Priority Data:
60/508,520 3 October 2003 (03.10.2003) US

(71) Applicant (for all designated States except US): OSRAM SYLVANIA INC. [US/US]; 100 Endicot Street, Danvers, MA 01923 (US).

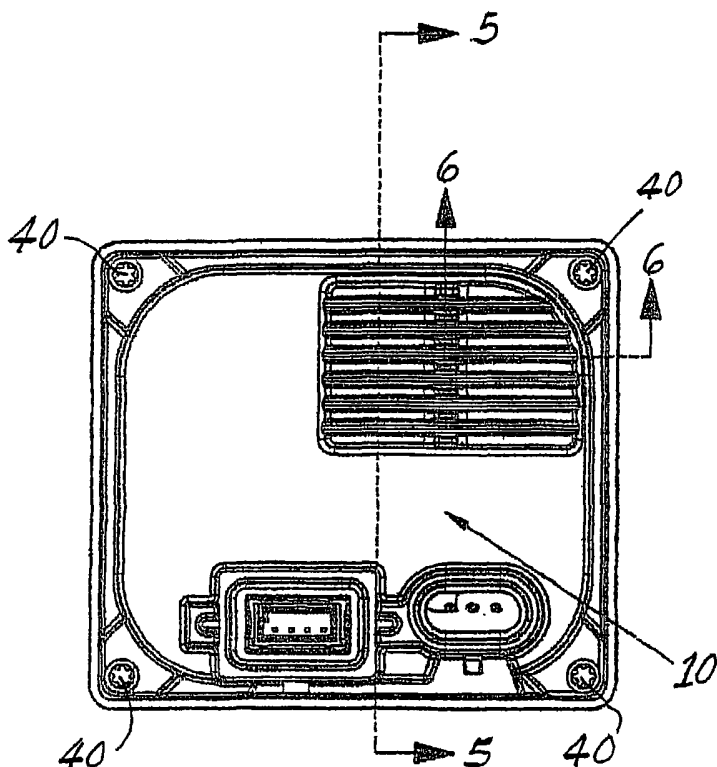
(72) Inventors; and

(75) Inventors/Applicants (for US only): SANROMA, John P. [US/US]; 13 Genetti Street, Bedford, MA 01730 (US). HOLDEN, Russell R. [US/US]; 34 Toppans Lane,

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,

[Continued on next page]

(54) Title: HOUSING FOR ELECTRONIC BALLAST



(57) Abstract: An electronic housing assembly is formed with an environmental seal (20), EMI control (56) and a good thermal coupling (44, 46) made between enclosed hot electric components (48, 50) and an exterior heat sink (52, 54).

WO 2005/034589 A3



FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the international search report:
16 June 2005

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/32528

<p>A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : H05K 9/00; B32B 15/08 US CL : 174/35 GC, 35 R, 35 MS; 442/16, 19 117; 315/112, 114, 118 According to International Patent Classification (IPC) or to both national classification and IPC</p>																	
<p>B. FIELDS SEARCHED</p> <p>Minimum documentation searched (classification system followed by classification symbols) U.S. : 174/35 GC, 35 R, 35 MS; 442/16, 19 117; 315/112, 114, 118</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched None</p> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Please See Continuation Sheet</p>																	
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p> <table border="1"> <thead> <tr> <th>Category *</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>A, P</td> <td>US 6,707,256 B2 (BRUNKER et al) 16 March 2004 (16.03.2004), see entire document.</td> <td>1-4</td> </tr> <tr> <td>A</td> <td>US 6,239,359 B1 (LILIENTHAL, II et al) 29 May 2001 (29.05.2001), see entire document.</td> <td>1-4</td> </tr> <tr> <td>A</td> <td>US 6,090,728 A (YENNI, Jr et al) 18 July 2000 (18.07.2000), see entire document.</td> <td>1-4</td> </tr> <tr> <td>A</td> <td>US 4,910,434 (DOUMANI et al) 20 March 1990 (20.03.1990), see entire document.</td> <td>1-4</td> </tr> </tbody> </table>			Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	A, P	US 6,707,256 B2 (BRUNKER et al) 16 March 2004 (16.03.2004), see entire document.	1-4	A	US 6,239,359 B1 (LILIENTHAL, II et al) 29 May 2001 (29.05.2001), see entire document.	1-4	A	US 6,090,728 A (YENNI, Jr et al) 18 July 2000 (18.07.2000), see entire document.	1-4	A	US 4,910,434 (DOUMANI et al) 20 March 1990 (20.03.1990), see entire document.	1-4
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.															
A, P	US 6,707,256 B2 (BRUNKER et al) 16 March 2004 (16.03.2004), see entire document.	1-4															
A	US 6,239,359 B1 (LILIENTHAL, II et al) 29 May 2001 (29.05.2001), see entire document.	1-4															
A	US 6,090,728 A (YENNI, Jr et al) 18 July 2000 (18.07.2000), see entire document.	1-4															
A	US 4,910,434 (DOUMANI et al) 20 March 1990 (20.03.1990), see entire document.	1-4															
<p><input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.</p>																	
<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"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</td> </tr> <tr> <td>"E" earlier application or patent published on or after the international filing date</td> <td>"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</td> </tr> <tr> <td>"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)</td> <td>"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</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td>"&" document member of the same patent family</td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance	"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	"E" earlier application or patent published on or after the international filing date	"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	"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)	"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	"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	"P" document published prior to the international filing date but later than the priority date claimed						
"A" document defining the general state of the art which is not considered to be of particular relevance	"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																
"E" earlier application or patent published on or after the international filing date	"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																
"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)	"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																
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family																
"P" document published prior to the international filing date but later than the priority date claimed																	
<p>Date of the actual completion of the international search 02 March 2005 (02.03.2005)</p>		<p>Date of mailing of the international search report 30 MAR 2005</p>															
<p>Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230</p>		<p>Authorized officer Wilson Lee <i>J. Utterfield</i> Telephone No. 571-272-1824 <i>Fan</i></p>															

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US04/32528

Continuation of B. FIELDS SEARCHED Item 3:

EAST

search terms: ring, annular, circular, groove, flange, EMI, electromagnetic, electronic