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(54) Title: HYBRID SOLID STATE EMITTER PRINTED CIRCUIT BOARD FOR USE IN A SOLID STATE DIRECTIONAL LAMP

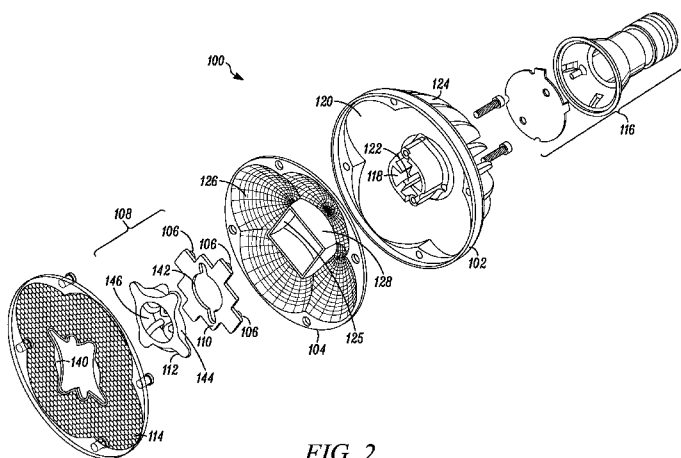


FIG. 2

(57) Abstract: An assembly for use in a solid state directional lamp is disclosed. The assembly includes a multilayer FR4 printed circuit board (110) and a metal heat spreader (112) assembled with the multilayer FR4 printed circuit board (110). The assembly is configured to mount a plurality of solid state light emitters (106). The multilayer FR4 printed circuit board (110) defines an aperture and at least a portion of the metal heat spreader is positioned in the aperture of the multilayer FR4 printed circuit board. The portion of the heat spreader positioned in the aperture of the multilayer FR4 printed circuit board is in communication with heat dissipation means.



## INTERNATIONAL SEARCH REPORT

International application No

PCT/US2012/041825

A. CLASSIFICATION OF SUBJECT MATTER

INV. F21V29/00 H05K1/02  
 ADD. F21V7/00 F21Y101/02 F21K9/00

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)

F21V F21K H05K

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 practicable, search terms used)

EPO-Internal , WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Further documents are listed in the continuation of Box C.



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International application No

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| C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT |                                                                                                                                                                                                                                                      |                                |
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