United States Design Patent

Zhai et al.

Heat Sink For Light-Emitting Diodes (LED)

Applicant: Lightera Corporation, Sunnyvale, CA (US)

Inventors: Jinhui Zhai, Fremont, CA (US); Abdul Salam Assaad, Foster City, CA (US); Tao Tong, Fremont, CA (US)

Term: 14 Years

Appl. No.: 29/486,433

Filed: Mar. 28, 2014

Loc. Cl. 13-03

U.S. Cl. D13/179; D26/2

Field of Classification Search

CPC F28D 1/0246; F28D 1/0426; F28D 15/02; F28D 15/0266; F28D 15/0275; F28D 15/04; F28F 13/003; F28F 13/12; F28F 1/325; F04D 25/0613; F04D 25/068; F04D 29/281422; F21V 29/2293; F21V 29/2225; G03B 21/16; G06F 1/20; G06F 1/203; H01L 23/34; H01L 23/367; H01L 23/3672; H01L 23/427; H01L 23/476; H05K 7/20; H05K 7/20127; H05K 7/20145; H05K 7/20154; H05K 7/20172; H05K 7/20336

USPC D13/179; D26/2; 113; 118; 138; 165/80.3; 104.26; 104.33; 122; 151; 165/185; 257/706; 707; 718–722; 313/46; 361/695; 697; 700; 702; 704; 710; 719; 362/231; 249.02; 294; 362/311.02

See application file for complete search history.

References Cited

U.S. PATENT DOCUMENTS

D063,866 S * 6/2013 Zeng et al. ............... D26/2
8,525,396 B2 * 9/2013 Shum et al. .............. 313/46
8,567,989 B2 * 10/2013 Zeng et al. ............. 362/249.02
8,593,044 B2 * 11/2013 Grajcar .................. 313/113
D064,722 S * 12/2013 Shum et al. .............. D13/179
8,601,388 B2 * 4/2014 Lu et al. ................. 362/249.02
2012/0260491 A1 * 10/2012 Shih et al. ........ 362/294

Primary Examiner — Selina Sikder
Attorney, Agent, or Firm — Helen Z. Mao

CLAIM

The ornamental design for the heat sink for a light-emitting diodes (LED), as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a heat sink for LED of our new design;
FIG. 2 is a side view thereof;
FIG. 3 is a top view thereof;
FIG. 4 is a bottom view thereof;
FIG. 5 is a side view thereof with a PAR base;
FIG. 6 is a front view thereof with a MR16-GU5.3 base, it being understood that the opposite side not shown is a mirror image thereof;
FIG. 7 is a right view thereof with a MR16-GU5.3 base, it being understood that the opposite side not shown is a mirror image thereof;
FIG. 8 is a front view thereof with a MR16-GU10 base, it being understood that the opposite side not shown is a mirror image thereof; and,
FIG. 9 is a right view thereof with a MR16-GU10 base, it being understood that the opposite side not shown is a mirror image thereof.

It will be understood that the broken line showing throughout the drawings is for illustrative purposes only and forms no part the subject design.

1 Claim, 9 Drawing Sheets
<table>
<thead>
<tr>
<th>Year</th>
<th>Citation</th>
<th>Date</th>
<th>First Name</th>
<th>Month</th>
<th>Page</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>2013/0301260</td>
<td>11/2013</td>
<td>Huang</td>
<td></td>
<td>362</td>
<td>235</td>
</tr>
<tr>
<td>2013</td>
<td>2013/0322089</td>
<td>12/2013</td>
<td>Mantis</td>
<td></td>
<td>362</td>
<td>311.02</td>
</tr>
</tbody>
</table>

* cited by examiner