

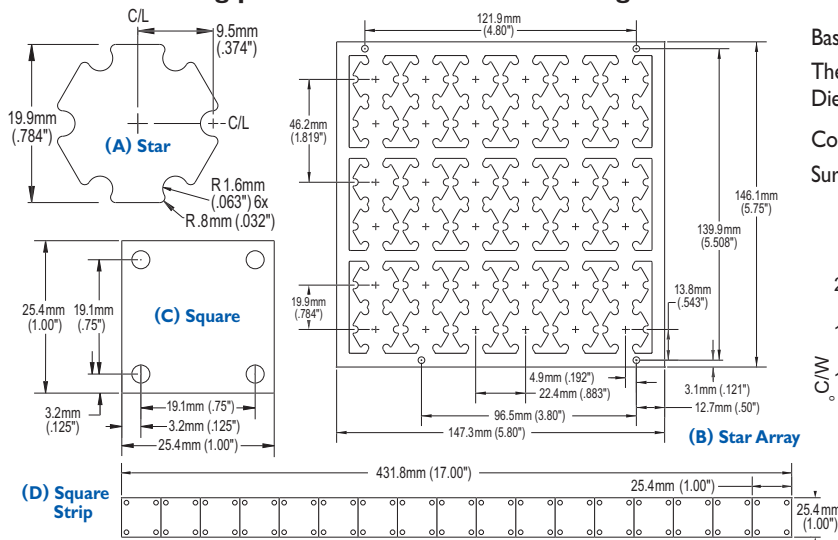
### Bergquist shortens the design cycle and speeds up your time to market.

### Thermal Clad substrates offer more flexibility in selecting LED components

Bergquist offers a family of standard thermally conductive insulated metal substrate (IMS) circuit boards specifically for LED applications which replace conventional FR-4 PCBs. Better thermal management allows more forward current to be applied to the LED, while still maintaining desired die temperatures, which means more light and possibly reducing the number of LEDs required to achieve the desired light output. With proper thermal management, Power LED lifetimes can be extended considerably.

Now you can get a jump-start on your design with one of these star or square substrates; available in single, strip or array configurations. Choose from 10 different LED footprints to give you the freedom to select the LED component's color, brightness and power that best fits your needs. Optimize the prototyping process with the lowest possible operating temperatures and the brightest light output for your next Power LED application. The most popular LED profiles on the world's most reliable IMS – matched for your design ease.

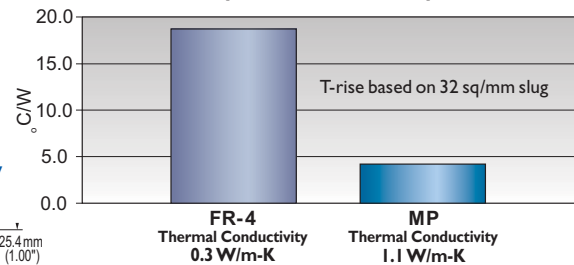
#### Standard Bergquist Thermal Clad® LED Configurations



#### Bergquist Thermal Clad® IMS Specs

Base Metal	1.57mm (0.062") Aluminum 5052
Thermally Conductive	.076mm (3 mil) MP
Dielectric	
Copper Circuit Foil	35µm (1oz.) copper circuit foil
Surface Finish	White solder mask, Pb-free HASL solder pads (RoHS compliant)

#### Thermal Impedance of FR4 compared to MP



#### Bergquist Thermal Clad® - Standard Power LED IMS Selection Guide

LED Footprint Type	Star Board (1-up) (A) Part No.	Star Array (36-up) (B) Part No.	Square Board (1-up) (C) Part No.	Square Strip (17-up) (D) Part No.
1 Osram Golden Dragon®	803128	803268	803118	803288
2 Lite-On® LOPL	803123	803263	803113	803283
3 Lumex SML-LX	803124	803264	803114	803284
4 Lumileds™ Luxeon® I, III and V	803125	803265	803115	803285
5 Lumileds™ Luxeon® K2	803126	803266	803116	803286
6 Lumileds™ Luxeon® Rebel	803127	803267	803117	803287
7 Cree® XLamp®	803122	803262	803112	803282
8 Seoul Semiconductor Z-Power	803129	803269	803119	803289
9 Nichia Power LED 3.5 x 3.5	803291	803292	803290	803293
10 Avago Moonstone™ Emitter	803121	803261	803111	803281

These products are available through your local distributor, please call or check our website for contact information.



[www.bergquistcompany.com](http://www.bergquistcompany.com)

The Bergquist Company  
North American Headquarters  
18930 West 78th Street  
Chanhassen, MN 55317  
Phone: 800-347-4572  
Fax: 952-835-4156

The Bergquist Company  
European Headquarters  
Bramenberg 9a, 3755 BT Eemnes  
Netherlands  
Phone: 31-35-5380684  
Fax: 31-35-5380295

The Bergquist Company  
Asian Headquarters  
Room 15, 8/F  
Wah Wai Industrial Centre No.38-40  
Au Pui Wan Street,  
Fotan, Shatin, N.T., Hong Kong  
Ph: 852-2690-9296  
Fax: 852-2690-2344

All statements, technical information and recommendations herein are based on tests we believe to be reliable, and THE FOLLOWING IS MADE IN LIEU OF ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MARKETABILITY AND FITNESS FOR PURPOSE. Sellers' and manufacturers' only obligation shall be to replace such quantity of the product proved to be defective. Before using, user shall determine the suitability of the product for its intended use, and the user assumes all risks and liability whatsoever in connection therewith. NEITHER SELLER NOR MANUFACTURER SHALL BE LIABLE EITHER IN TORT OR IN CONTRACT FOR ANY LOSS OR DAMAGE, DIRECT, INCIDENTAL, OR CONSEQUENTIAL, INCLUDING LOSS OF PROFITS OR REVENUE ARISING OUT OF THE USE OR THE INABILITY TO USE A PRODUCT. No statement, purchase order or recommendations by seller or purchaser not contained herein shall have any force or effect unless in an agreement signed by the officers of the seller and manufacturer.

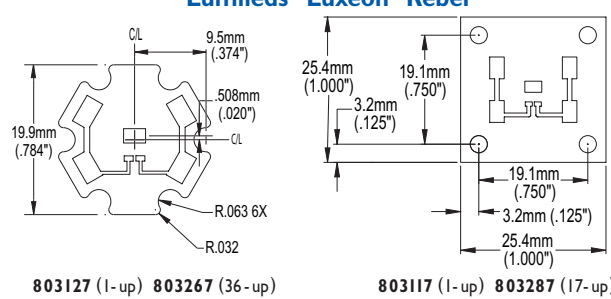
WHP\_TClad\_LED\_31408\_v7

### Osram Golden Dragon®



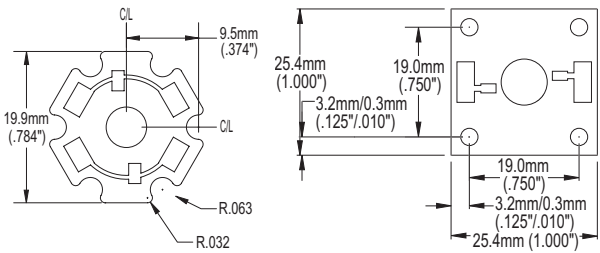
803128 (1-up) 803268 (36-up) 803118 (1-up) 803288 (17-up)

### Lumileds™ Luxeon® Rebel



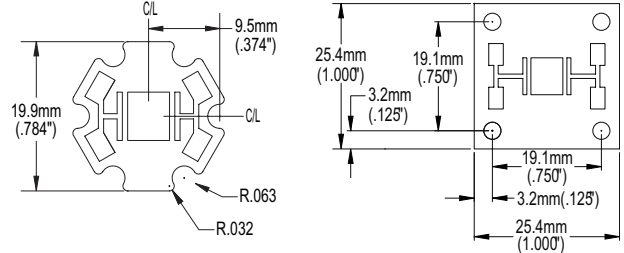
803127 (1-up) 803267 (36-up) 803117 (1-up) 803287 (17-up)

### Lite-On® LOPL



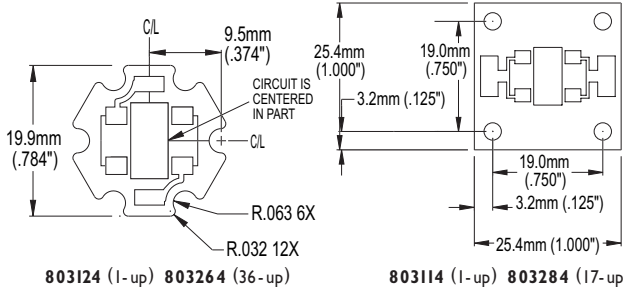
803123 (1-up) 803263 (36-up) 803113 (1-up) 803283 (17-up)

### Cree® XLamp®



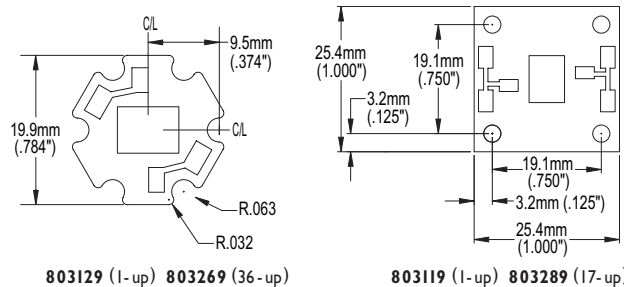
803122 (1-up) 803262 (36-up) 803112 (1-up) 803282 (17-up)

### Lumex SML-LX



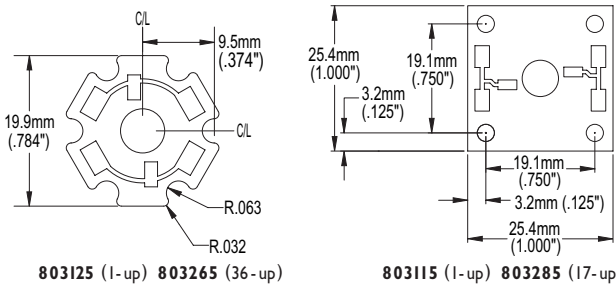
803124 (1-up) 803264 (36-up) 803114 (1-up) 803284 (17-up)

### Seoul Semiconductor Z-Power



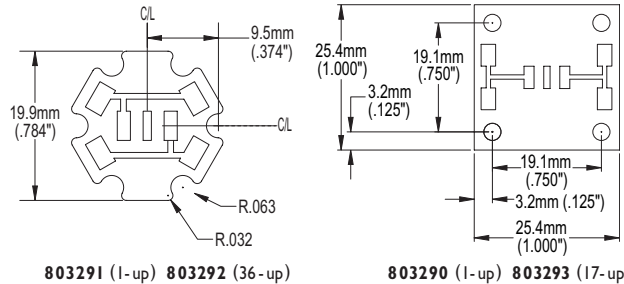
803129 (1-up) 803269 (36-up) 803119 (1-up) 803289 (17-up)

### Lumileds™ Luxeon® I, III and V



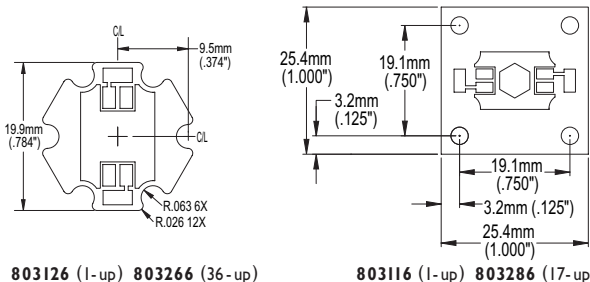
803125 (1-up) 803265 (36-up) 803115 (1-up) 803285 (17-up)

### Nichia Power LED 3.5 x 3.5



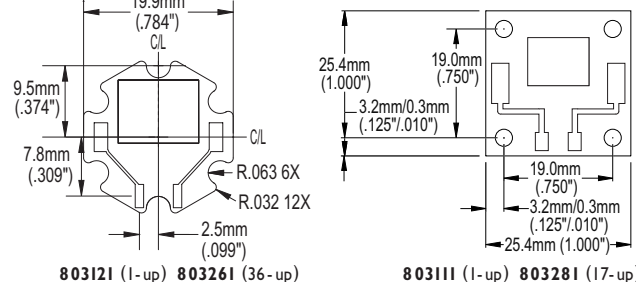
803291 (1-up) 803292 (36-up) 803290 (1-up) 803293 (17-up)

### Lumileds™ Luxeon® K2



803126 (1-up) 803266 (36-up) 803116 (1-up) 803286 (17-up)

### Avago Moonstone™ Emitter



803121 (1-up) 803261 (36-up) 803111 (1-up) 803281 (17-up)

These products are available through your local distributor, please call or check our website for contact information.

[www.bergquistcompany.com](http://www.bergquistcompany.com) | 1.800.347.4572