

[LEDs](#)

LEDs - Standard Configurations

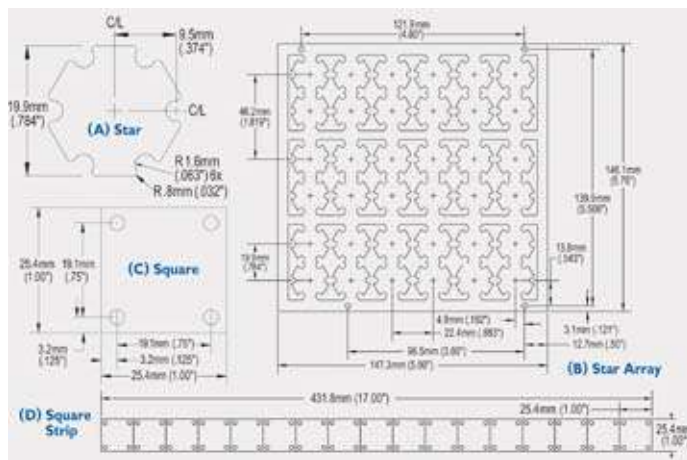
IntroductionTemp. EffectPCB ComparisonHigh Power Lighting (HPL)T-Clad PATIM SolutionsStandard Configurations

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

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.

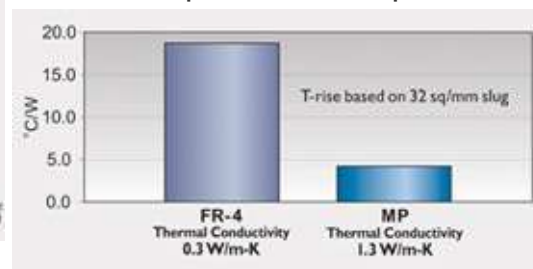
Standard Bergquist Thermal Clad® LED Configurations



Bergquist Thermal Clad® IMS Specs

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

Thermal Impedance of FR4 compared to MP



Standard Bergquist Thermal Clad® LED Configurations can be purchased through [Digi-Key®](#), [Quist Electronics](#), or [Mouser Electronics](#)

| 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 | Osram Ostar SMT | 803808 | 803809 | 803807 | 803810 |
| 3 | Osram Oslon | 804087 | 804561 | 804559 | 804563 |
| 4 | Lite-On® LOPL | 803123 | 803263 | 803113 | 803283 |
| 5 | Lumex SML-LX | 803124 | 803264 | 803114 | 803284 |
| 6 | Lumileds™ Luxeon® I, III and V | 803125 | 803265 | 803115 | 803285 |
| 7 | Lumileds™ Luxeon® K2 | 803126 | 803266 | 803116 | 803286 |
| 8 | Lumileds™ Luxeon® Rebel | 803127 | 803267 | 803117 | 803287 |
| 9 | Cree® XLamp® XR-E | 803122 | 803262 | 803112 | 803282 |
| 10 | Cree® XLamp® XP-E | 804090 | 804091 | 804089 | 804092 |
| 11 | Cree® XLamp® XP-G | 804511 | - | - | - |
| 12 | Cree® XLamp® MX-6 | 804450 | - | - | - |
| 13 | Cree® XLamp® MC-E | 803772 | 803790 | 803771 | 803806 |
| 14 | Seoul Semiconductor Z-Power P4 | 803129 | 803269 | 803119 | 803289 |
| 15 | Seoul Semiconductor Z-Power P5 | 803774 | 803803 | 803773 | 803804 |

| | | | | | |
|----|--------------------------------|--------|--------|--------|--------|
| 16 | Seoul Semiconductor Z-Power P7 | - | - | 803482 | 803805 |
| 17 | Nichia Power LED 6.5 x 5.0 | 803291 | 803292 | 803290 | 803293 |
| 18 | Nichia Rigel 3.5 x 3.5 | 804155 | 804562 | 804560 | 804564 |
| 19 | Samsung Sunnix | 804068 | 804069 | 804067 | 804070 |
| 20 | Avago Moonstone™ Emitter | 803121 | 803261 | 803111 | 803281 |
| 21 | Citizen Electronics CLL600 | - | 805651 | - | - |
| 22 | Citizen Electronics CL-L400 | - | 805652 | - | - |