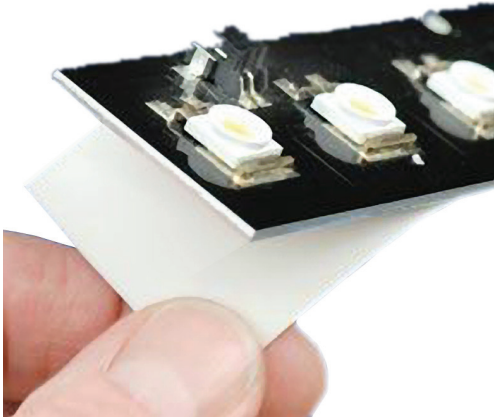


Aluminum And Metal Clad Printed Circuit Boards

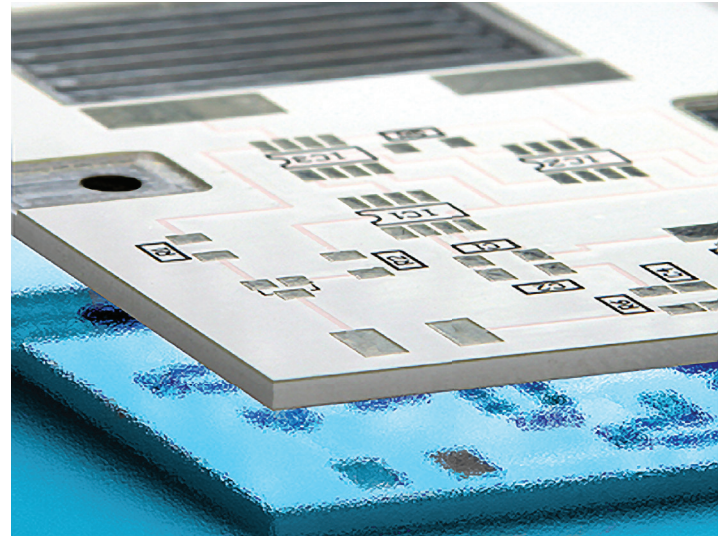
Metal clad circuit boards use a base metal material to assist with the heat dissipation of the circuit board. These are also often referred to as Metal Clad PCBs, Thermal Clad PCBs, T-Clad PCBs or Thermal Substrates or Insulated Metal Substrates (IMS) or Metal based PCBs etc.



Base metals are used as an alternative to FR4 or CEM3 boards for the ability to dissipate heat away from critical board components and to less crucial areas such as the metal heat sink backing or metallic core technologies. The dielectrics used are typically 5 to 10 times as thermally conductive as conventional epoxy-glass and a tenth of the thickness resulting in thermal transfer exponentially more efficient than a conventional rigid PCB. This is so effective that lower copper weights than suggested by the IPC heat-rise charts can be used.

The thermal conductivity assisted by the aluminium cores in the circuit boards makes higher packing densities, longer operating times, and improved security against failure possible.

The metal core of the thermal PCB can be aluminum (aluminum clad PCB), copper (copper clad PCB or a heavy copper PCB) or a mixture of special alloys. The most commonly used is an aluminum clad PCB.



Benefits over FR-4 PCBs

- Improved Reliability.
- Mechanically Rigid.
- Increased Life and Durability.
- Improved Thermal Conduction.
- Reduce Heat Sink Requirements.
- Reduce Component Temperatures.
- Potential To Reduce PCB Dimensions.
- Excellent EMI-EMC Shielding Characteristics.
- Increased Physical Strength Of The Assembly.
- Versatility In Component And Tracking Layout.
- Reducing The Thermal Stress On All Components.



Bendable Aluminum Printed Circuit Boards

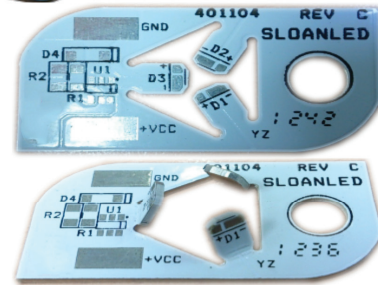
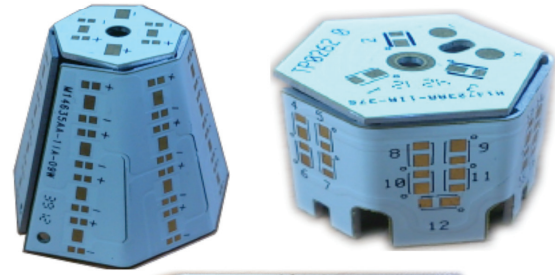
Meets

IPC Peel Strength,
Dielectric Breakdown and
Thermal Impedance

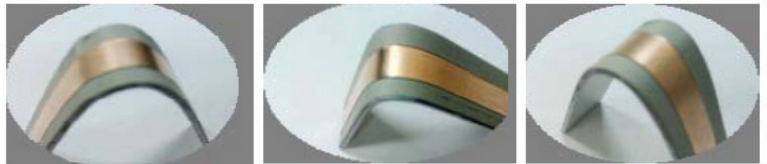
Copper 5052, 6060, 6061
Copper Thickness 35-180 μm

60 & 90 Degree Radius
Variety of surface finish
Super bright solder mask
Very good heat dissipation

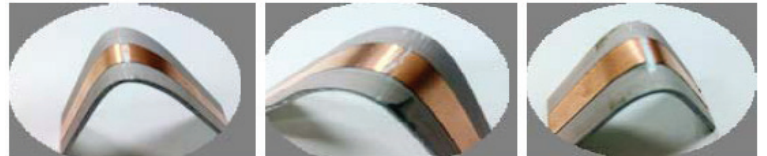
UL approved and RoHS compliant
Thermal Conductivity 1.0-3.0 w/m.k



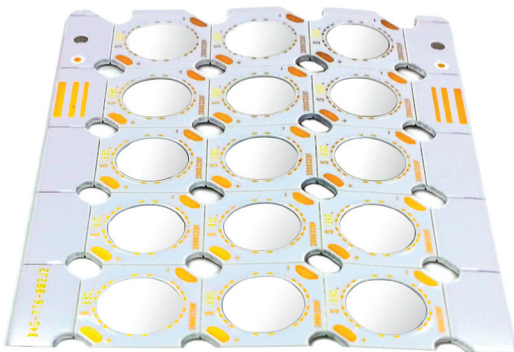
2mm Radius 60° 3mm Radius 60° 4mm Radius 60°
Special HTE MCCL Crack Cycle Bend Test



Conventional MCCL Crack Cycle Bend Test



**Mirror Face
Aluminum PCB**
Integrated Mirror Backing
Plus Super White Solder Mask
Provides Up To
96% Reflectivity



New Metal Core

PCB Technology For 2015

Super Thin Metal Core PCBs
Long Length Metal Core PCBs (800mm)



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