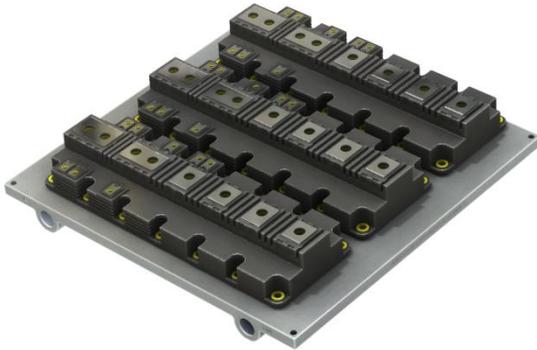


MicroCool[®] liquid cooled cold plates offer high performance, reliability and low cost solutions optimized for the [Infineon PrimePACK IGBT 5](#) with .XT modules.



MicroCool has partnered with Infineon to provide high performance, robust and cost effective liquid cooled cold plates. These cold plates will be optimized to work exclusively with high performance IGBT modules such as the PrimePACK 2 and 3 with IGBT 5 and .XT. MicroCool will offer a standard off the shelf design as well as custom designs since no two inverters are exactly the same. MicroCool cold plates will give Infineon's customers piece of mind know that the cooling of the IGBT modules is handled correctly.

Performance and reliability of high power devices such as IGBT modules are directly related to the thermal performance of the cooling system. New manufacturing processes and associated new heat transfer surface geometries significantly improve the cost, hydrodynamic and thermal performance of liquid cooled cold plates.

The cold plate can be thought of as the mechanical backbone of a power electronic assembly, not only does it need to have very good thermal performance but it also has to be structurally strong, cost effective and it needs

to last years in the field without issue. Unlike older cold plate construction methods such as pressed in copper tube or brazed aluminum with folded fin, MicroCool[®] cold plates use extruded aluminum main structures, friction stir welded construction and our proprietary micro deformation technology ([MDT™](#)) pin fin heat transfer surface on the inside.

In most cases our customers see a 30% improvement in thermal resistance and 2-4X reduction in pressure drop when compared to the typical copper pressed in tub cold plate solution. This has been proven with multiple customers as well as in lab testing. (See published [MicroCool[®] paper from PCIM Asia 2016](#))

The benefits for the end user are many: Balanced parallel cooling for uniform hotspot free cold plate surface, robust leak free friction stir welded construction, Micro deformation technology (MDT™) heat transfer surface inside, strong and cost effective extruded aluminum main structure, wide range of standard sizes to fit many IGBT footprints, as well as tooling free customizable designs in 4 to 6 weeks.

The MicroCool[®] cold plate for the PrimePACK IGBT 5 with .XT has been optimized for the specific heat flux area within the IGBT module, as well as work in conjunction with the mounting and thermal interface material of the Infineon modules.

