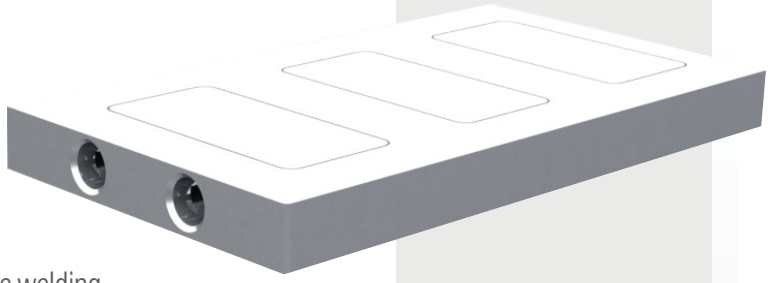
WAKEFIELDTHERMAL

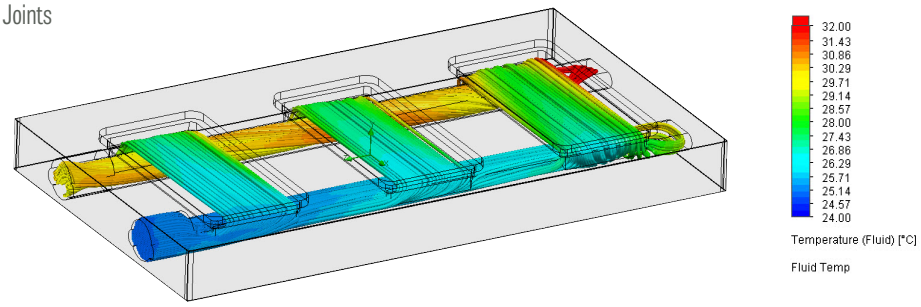
POWER MODULE COOLERS
FRICTION STIR WELDED COLD PLATES
DATA SHEET



Wakefield Thermal produces a standard Liquid Cold Plate using Friction Stir Welding (FSW) . Friction Stir Welding, a solid-state welding method, seamlessly joins two metal pieces without melting them. Leveraging Wakefield Thermal's inhouse Friction Stir Welding capabilities, its products surpass traditional techniques in Cold Plate manufacturing.

FEATURES & BENEFITS

- Compatibility with Dissimilar Metals
- Narrow Heat-Affected Zone
- Environmental Friendliness
- Solid-State Welding
- High Strength Joints
- Fatigue Resistance
- Versatility
- Dimensional Stability
- Cost Efficiency

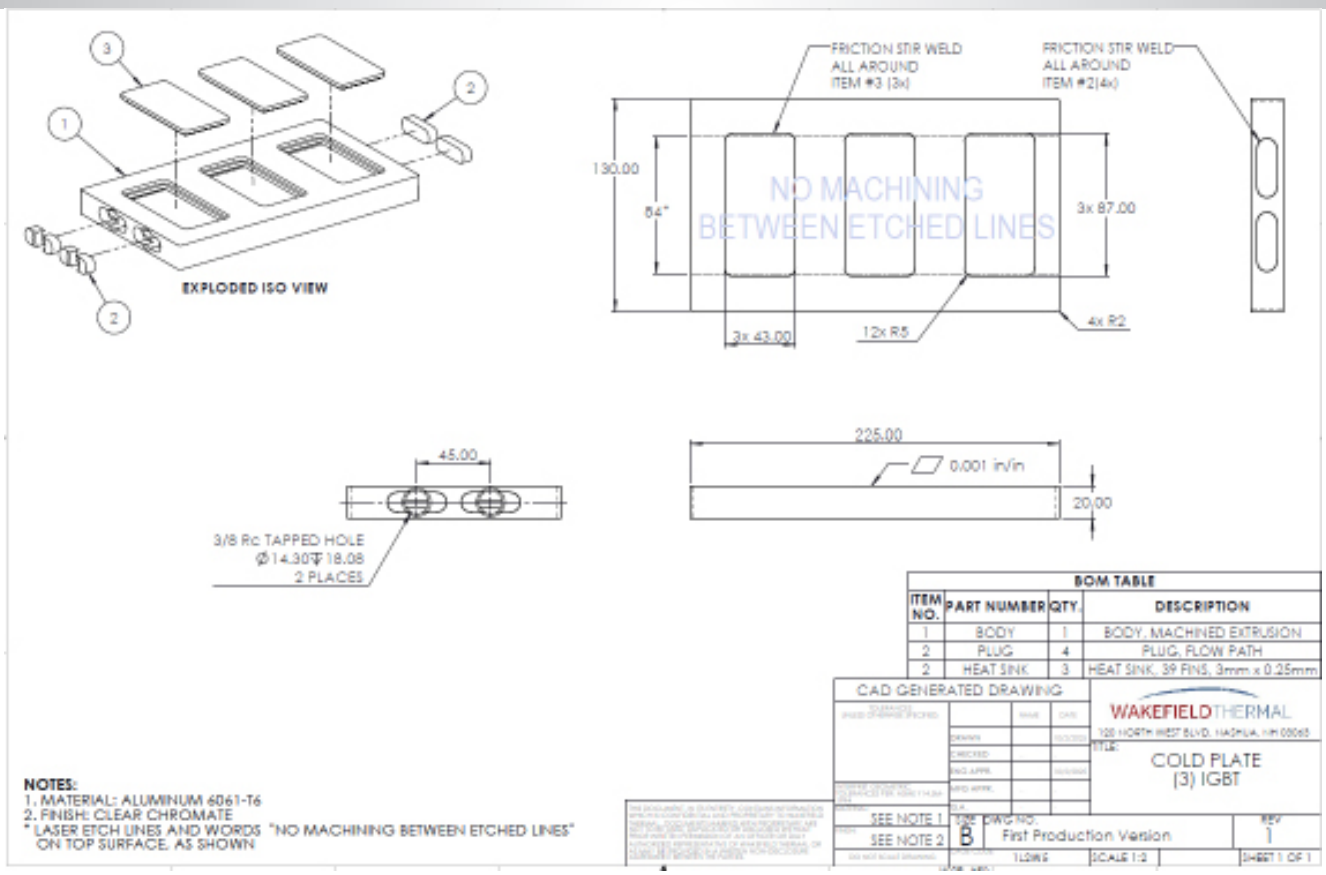


Wakefield Part Number	Description	Overall Dimensions
132814	Friction Stir Welded Cold Plate - 3 IGBT	8.86" L x 5.12" W x 0.79" H

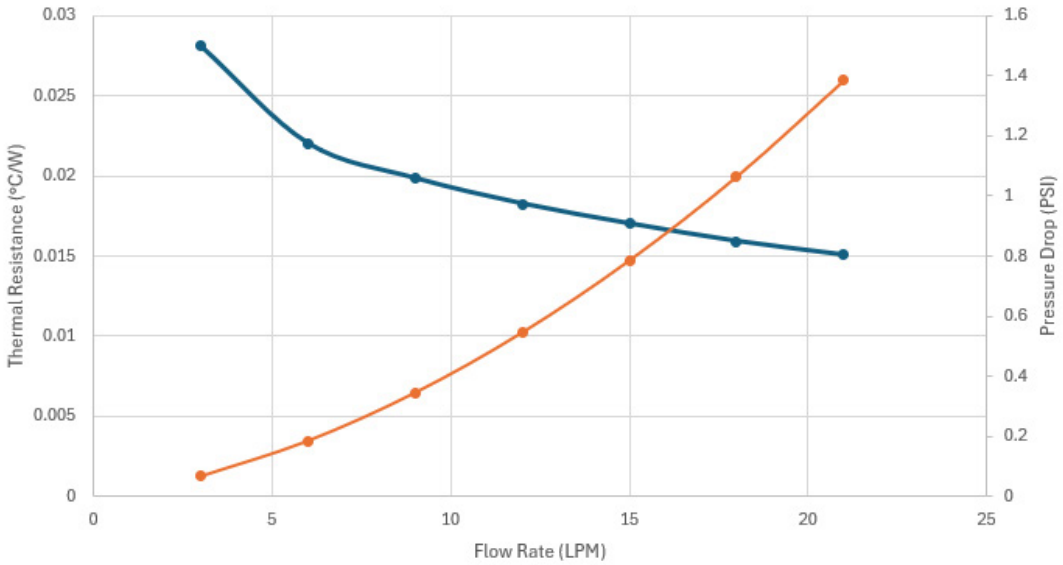
Power Module (IGBT) Cross-references:

- Infineon CoolSiC
- Infineon FF2MR12KM1
- Infineon FF2MR12KM1P
- Infineon FF3MR12KM1
- Infineon FF6MR12KM1
- Infineon FF6MR12KM1P
- Microchip MSCSM120AM02CT6LIAG
- Microchip MSCSM70AM025CT6LIAG
- Microsemi SP6LI
- Mitsubishi CMH200DU-24NFH
- Mitsubishi CMH300DU-24NFH
- Semikron SEMITRANS 3
- Semikron SKM125KD12SC
- Semikron SKM260MB170SCH17
- Semikron SKM350MB120SCH15
- Semikron SKM350MB120SCH17
- Semikron SKM500MB120SC
- Wolfspeed CAB760M12HM3
- Wolfspeed CAS120M12BM2
- Wolfspeed CAS300M12BM2
- Wolfspeed CAS300M17BM2
- Wolfspeed CAS325M12HM2
- Wolfspeed CAS480M12HM3
- Wolfspeed WAB300M12BM3
- Wolfspeed WAB400M12BM3

132814



THERMAL CURVES



Thermal performance is measured as max plate temp - inlet fluid temp / heat dissipation

COOLVATION
Innovative Thermal Solutions
COOLED BY WAKEFIELD THERMAL

5 STEP
THERMAL ENGINEERING GUIDE
From Concept To Cooling

COOLVATION provides thermal management engineering services to improve products' thermal performance while applying cost effective solutions to eliminate unnecessary manufacturing costs. COOLVATION is a seamless resource extension for our customers' thermal & mechanical engineering teams from ideation to lab testing.

Customer Thermal Challenge
Physical limitations
Power constraints
Air flow/ fluid conditions
Environmental conditions
Component specifications
Define ideal state

01 STEP

Execution
Concept analysis
(CFD-ansys/ ice pack, fin optimizations software)
Solid model
Analysis & verification
Cost analysis

03 STEP

Global Manufacturing
Global manufacturing facilities
Global warehousing
Global labs to support future program

05 STEP

02 STEP

Collaboration
Review conditions
Statement of work to customer
Historical consideration along with cutting edge technologies to provide cost effective solution

04 STEP

Solution & Verification
Dedicated new product development center
Prototype
Physical thermal lab testing
Proven manufacturability

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