



IGBT Cold Plates

High Performance

ATS-CP-1003

ATS IGBT cold plates have unmatched thermal performance because of their mini-channel fin design. The ATS-CP-1003 cold plate, at a flow rate of 4 L/min, can transfer 1kW of heat at 6.8°C temperature difference between the cold plate base and inlet fluid temperature. If the coolant has particles, a #60 filter or finer is recommended to remove possible particles in the liquid.

FEATURES AND BENEFITS

- » More than 30% improvement in thermal performance compared to commercially available cold plates
- » Compatible with industry accepted coolants
- » 1/4 NPT threaded input and output
- » Low pressure drop
- » Lightweight for ease of transportation
- » Provides uniform cold plate surface temperature when IGBTs are installed
- » Maximum pressure: 60 psi
- » **Applications:** Automotive Industry, Uninterruptible Power Supplies, Wind Turbines, Photovoltaic Inverters, Power Electronics, Induction Heaters, Motor Devices, Utility Vehicles, Anywhere power devices are used

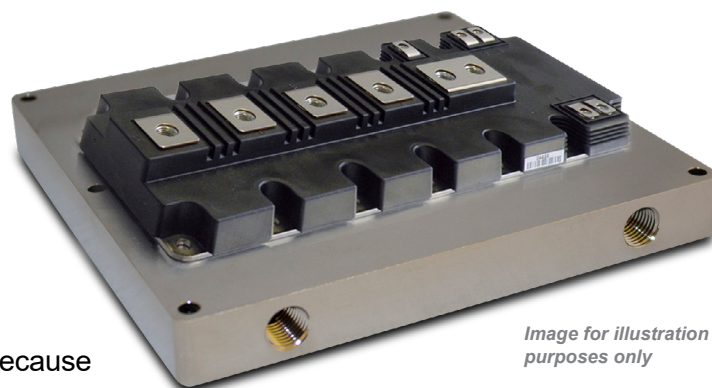


Image for illustration purposes only

DIMENSIONS (L X W X H)

162 X 147 X 20 mm
(6.4 X 5.8 X 0.8")

INLET/OUTPUT PORTS

1/4 – 18 NPT

MATERIAL

ALUMINUM, UNFINISHED

WEIGHT

1,102g

ATS COLD PLATES

» Innovative Technology

Superior heat transfer, flexible design platform

» Compact Design

Designed to fit standard IGBT and other power electronics applications

» Easy Connections

Industry standard threaded hole sizes allows for hassle-free connection options

» Safe & Reliable

Leak Free (100% tested:100 psi)

» Custom Options

Choose from various options, i.e; fitting types, material types, device mounting and more. Contact ATS for additional information

» Customization Available!

ATS will customize any of the cold plates to fit into your application

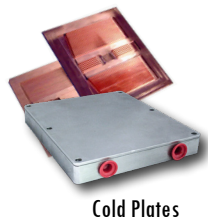
ADDITIONAL COMPONENTS DEPLOYED IN LIQUID COOLING LOOPS



Flow Meter



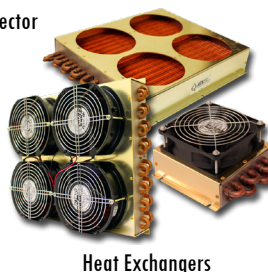
Leak Detector



Cold Plates



Chillers



Heat Exchangers

ATS has the products needed to design a complete liquid cooling loop: **Cold Plates** to transfer and remove the heat from the source, **Heat Exchangers** to transfer heat from the liquid to the air with or without a fan, and **Chillers** to circulate and condition the fluid in the system. In addition, ATS offers **Flow Meters** to instantaneously measure the volumetric flow rate of the fluid in the system and **Leak Detectors** to notify users of any leaks in the system.

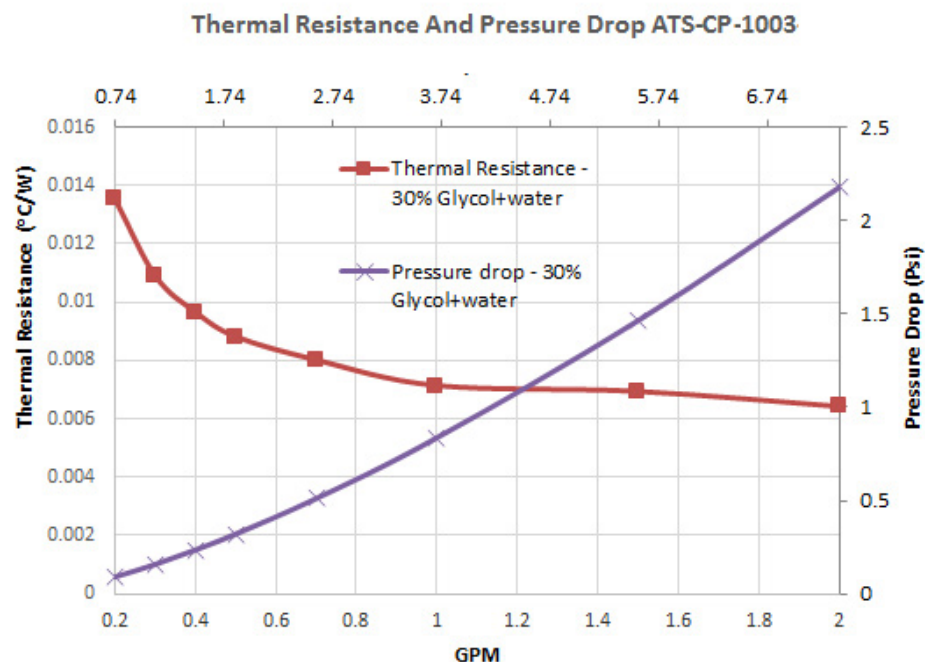
IGBT COMPATIBILITY

- » Semikron SemiX® 33
- » Infineon EconoPACK™ +
- » Fuji Semiconductor M629
- » Powerex Intellimod™ L-Series
- » Other IGBTs or high power devices





PERFORMANCE CURVES



ATS Cold Plate Family			
Part Number	Dimensions* (L x W x H)	Flow Rate (L/min)	ΔT @ kW
ATS-CP-1000	202 x 130 x 20	4 L/min	5.50°C
ATS-CP-1001	198 x 147 x 20	4 L/min	5.00°C
ATS-CP-1002	162 x 136 x 20	4 L/min	7.00°C
ATS-CP-1003	162 x 147 x 20	4 L/min	6.80°C
ATS-CP-1004	162 x 172 x 20	4 L/min	5.90°C

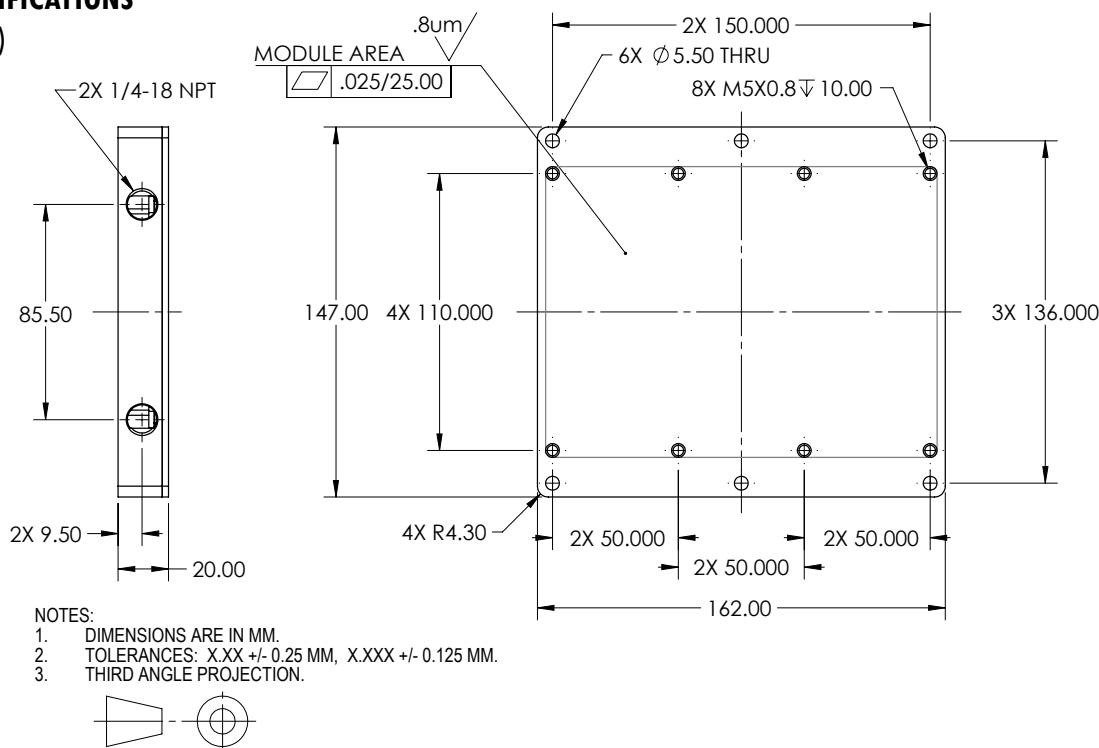
Flow rate (gallon/min)**	R (°C/W)	DeltaP (psi)
2	0.0064	2.2
1	0.007	0.83
0.5	0.0087	0.32
0.2	0.014	0.09

* All Dimensions in mm

** Note: To convert to l/min, multiply by 3.7

MECHANICAL SPECIFICATIONS

(all dimensions in mm)



For further technical information, please contact Advanced Thermal Solutions, Inc.
by phone: **1-781-769-2800**, email ats-hq@qats.com or visit www.qats.com.