



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

ADDITIONAL COMPONENTS DEPLOYED IN LIQUID COOLING LOOPS



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.

» **Customization Available!**
ATS will customize any of the cold plates to fit into your application

IGBT COMPATIBILITY

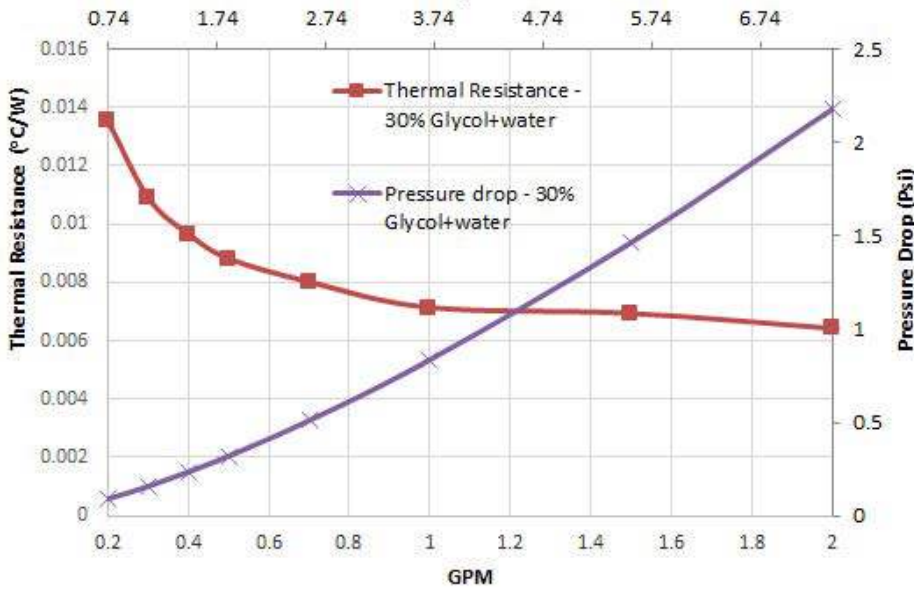
- » Semikron SemiX® 33
- » Infineon EconoPACK™ +
- » Fuji Semiconductor M629
- » Powerex Intellimod™ L-Series
- » Other IGBTs or high power devices





PERFORMANCE CURVES

Thermal Resistance And Pressure Drop ATS-CP-1003



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

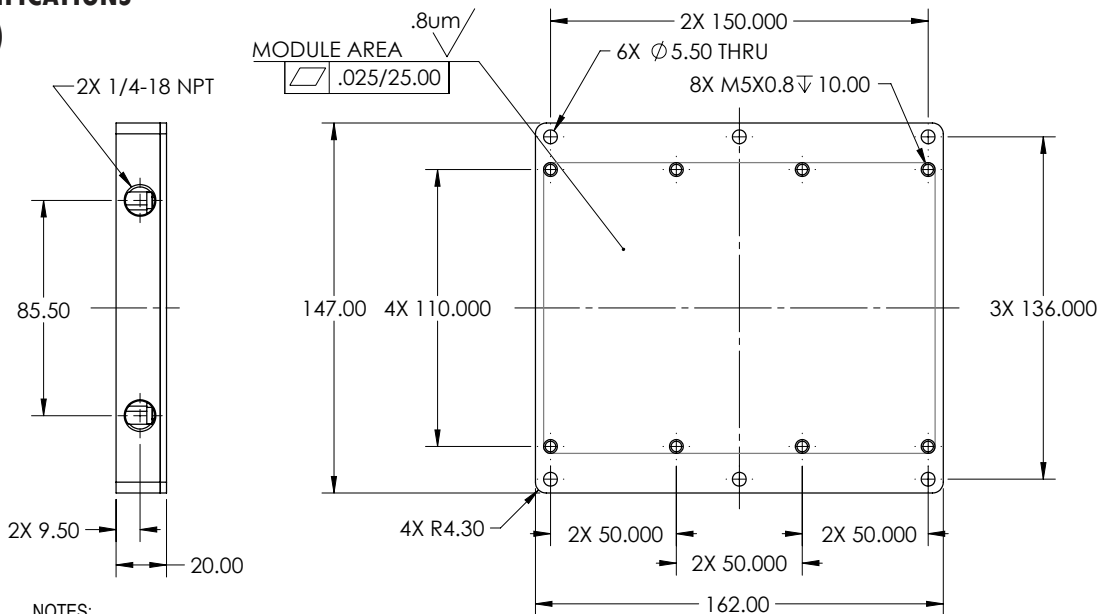
Flow rate (gallon/min)**	R (°C/W)	DeltaP (psi)
2	0.0064	2.2
1	0.007	0.83
0.5	0.0087	0.32
0.2	0.014	0.09

* All Dimensions in mm

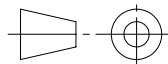
** Note: To convert to l/min, multiply by 3.7

MECHANICAL SPECIFICATIONS

(all dimensions in mm)



- NOTES:
 1. DIMENSIONS ARE IN MM.
 2. TOLERANCES: X.XX +/- 0.25 MM, X.XXX +/- 0.125 MM.
 3. THIRD ANGLE PROJECTION.



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.