



**ATS** ADVANCED  
THERMAL  
SOLUTIONS, INC.  
Innovations in Thermal Management®

**COLD PLATES**

# IGBT Cold Plates

## High Performance

### ATS-CP-1002

ATS IGBT cold plates have unmatched thermal performance because of their mini-channel fin design. The ATS-CP-1002 cold plate, at a flow rate of 4 L/min, can transfer 1kW of heat at 7.0°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
- » Leak tested at 100 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 136 X 20 mm  
(6.4 X 5.4 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



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

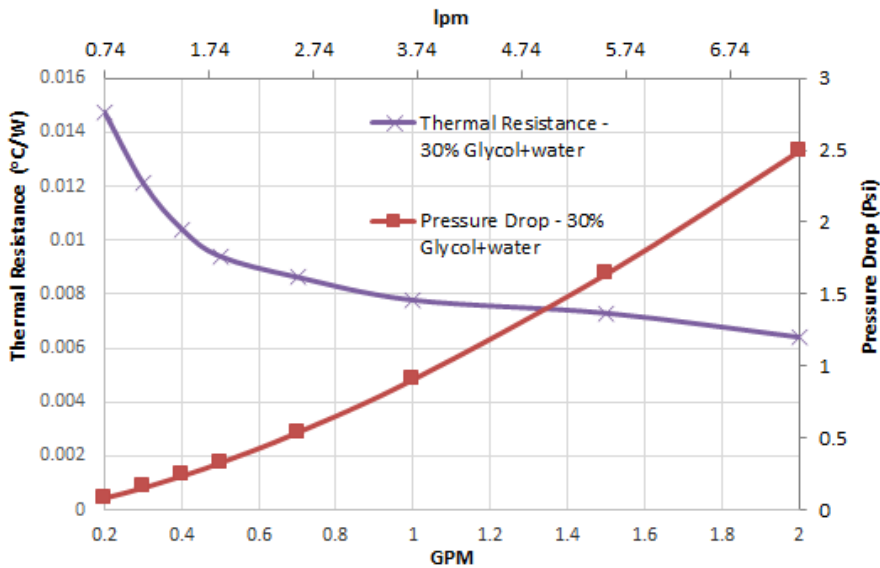
- » Semikron SSKIM® 63
- » Other IGBTs or high power devices





## PERFORMANCE CURVES

Thermal Resistance And Pressure Drop ATS-CP1002-MA01-C1-R0



ATS Cold Plate Family			
Part Number	Dimensions* (L x W x H)	Flow Rate (L/min)	ΔT @ 1kW
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	0.006	1.2
1	0.0073	0.45
0.5	0.0088	0.17
0.2	0.0138	0.04

\* All Dimensions in mm

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

## MECHANICAL SPECIFICATIONS

(all dimensions in mm)

