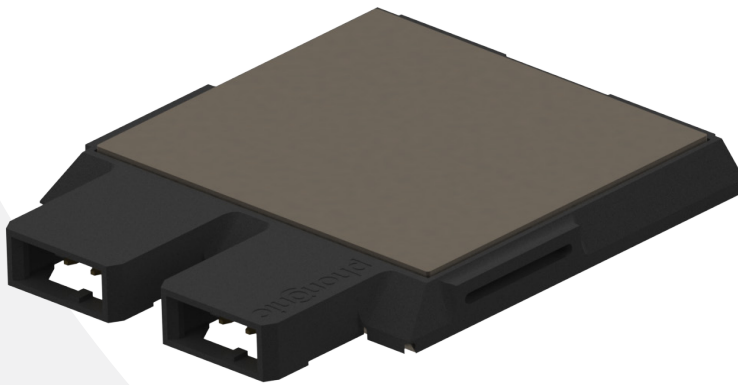


## Technical Data sheet

# SHP125

Phononic's high-performance SHP125 is a solid-state heat pump based on thermoelectric cooling technology. Our devices deliver uniquely large heat pumping capacity in a small package while still providing accurate temperature control. Thermoelectric technology provides cooling or heating without sound or vibration, and Phononic's compact and robust mechanical design facilitates integration into heat exchange systems with superior reliability and performance in a wide variety of applications. Phononic's SHP125 is designed for medium temperature applications.



Specifications	
Hot side temperature	32 °C
dTmax, Air	72 °C
Vmax	92.7 Volts
I <sub>max</sub>	4.1 Amps
AC Resistance	19.2 Ω

## Features

- High efficiency even at peak performance
- Robust packaging sealed against moisture ingress
- Compact form factor and flexible orientation
- RoHS & REACH Compliant
- No toxic refrigerants

## Applications

- Beverage and food refrigerators
- Pharmaceutical and medical cooling
- Recreational & consumer cooling
- Small appliances
- Refrigerated compartments and drawers
- Portable refrigeration
- Pumped-loop and liquid cooling

## Benefits

- **High heat pumping performance**  
Reach temperatures and reliability unmatched by typical thermoelectric devices
- **Precise temperature control**  
Provide accurate and selectable temperature ranges
- **Exceptional Design Support**  
Benefit from Design with Phononic program expertise, resulting in faster time to market with a design done right the first time

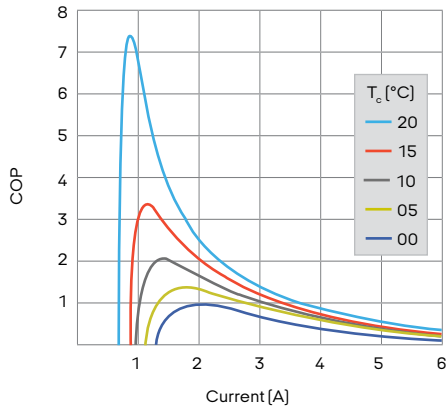
## Application Considerations

- Device has two thermoelectric elements that can be connected in series or parallel. Please note connector polarity.
- Mating connector recommendation: TE Connectivity AMP series, part 1-178128-2 and receptacle 175218-2 with 18AWG wire.
- Clamping Force: Recommended range of 150-200 kgf, Maximum force of 300 kgf.
- Use a torque wrench for even application of clamping force.
- Maximum Voltage: 96V, Maximum Current: 4.2A.
- Effective heat-sinking of the heat exchange surfaces is required during operation.
- Do not allow heat exchange temperature to exceed 85°C.

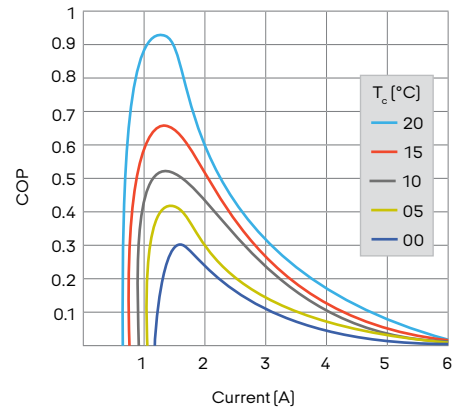
For performance information in alternative environments, or for thermal assembly design, contact Phononic.

## Typical Performance Curves

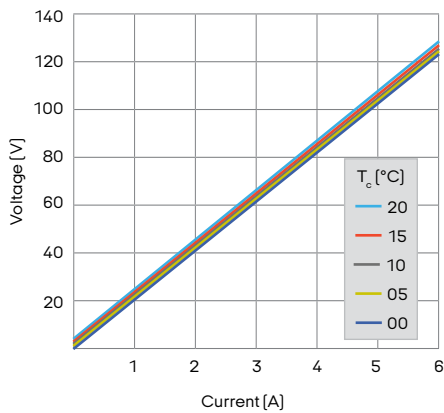
Coefficient of Performance,  $T_h = 25\text{ }^\circ\text{C}$



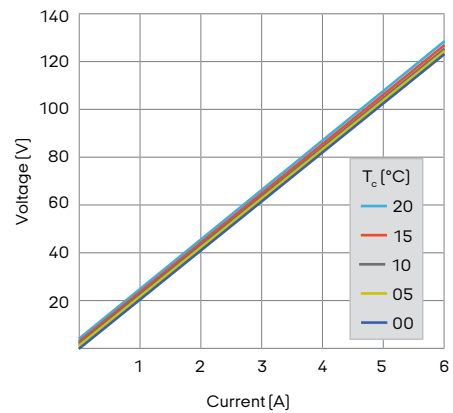
Coefficient of Performance,  $T_h = 50\text{ }^\circ\text{C}$



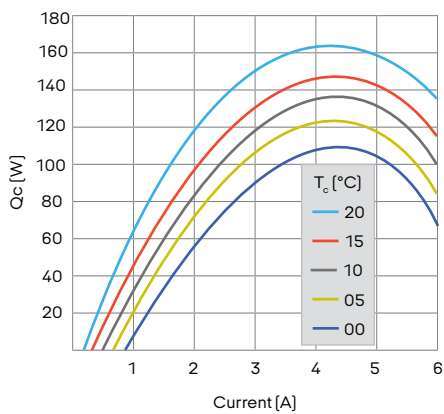
Voltage vs. Current,  $T_h = 25\text{ }^\circ\text{C}$



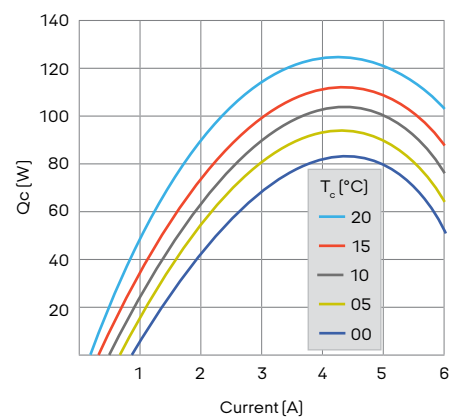
Voltage vs. Current,  $T_h = 50\text{ }^\circ\text{C}$



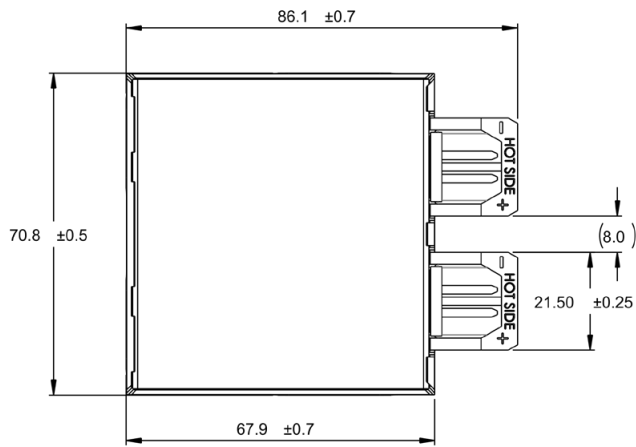
Heat Transferred,  $T_h = 25\text{ }^\circ\text{C}$



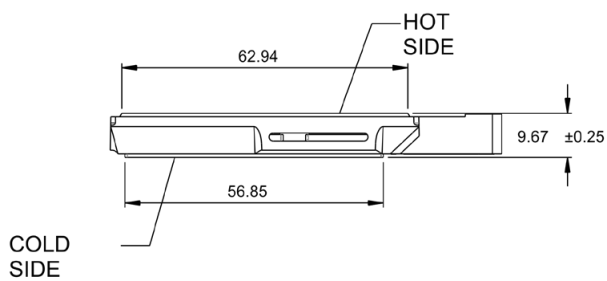
Heat Transferred,  $T_h = 50\text{ }^\circ\text{C}$



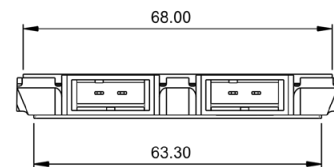
## Mechanical Characteristics



Top view



Side view



Front view

Find the right solution with Phononic  
Contact us to learn more