

Technical Data sheet

SCP88

Phononic's high-performance SCP88 is a solid-state heat pump based on cascaded 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 SCP88 is designed for low temperature applications. It delivers ideal heat pumping capacity for higher temperature differential conditions.



Specifications	
Hot side temperature	32 °C
dTmax, Air	100°C
Vmax	69.5 Volts
I _{max}	6.2 Amps
AC Resistance	6.7 Ω

Features

- High efficiency even at peak performance
- Robust packaging sealed against moisture ingress
- Compact form factor and flexible orientation
- RoHS & REACH Compliant

Applications

- Compact beverage and food freezers
- Small appliances
- Pharmaceutical and medical freezers
- Recreational & consumer cooling
- Freezer compartments and drawers
- Portable freezers

Benefits

- **High heat pumping performance**
Reach temperatures and reliability unmatched by typical thermoelectric devices
- **Precise temperature control**
Provide accurate and selectable freezing 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

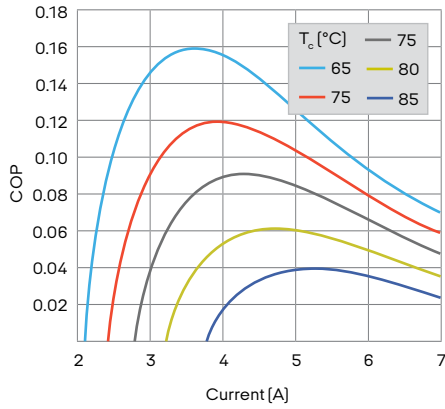
Application Considerations

- To minimize thermal stress when operating in cooling mode, use linear/proportional temperature control or a similar method rather than an ON/OFF method
- **Mating connector:** TE Connectivity AMP series, part 1-178128-4 and receptacle 175218-2 crimped to 18AWG wire
- **Clamping Force:** Recommended range of 150-250 kgf, Maximum force of 400 kgf.
- Use a torque wrench for even application of clamping force..
- **Maximum Voltage:** 69.5V, **Maximum Current:** 6.2A
- Effective heat-sinking of the heat exchange surfaces is required during operation.
- Do not allow heat exchange temperature to exceed 85oC

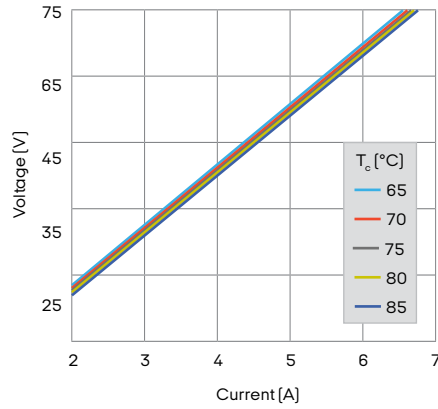
For performance information in alternative environments, or for thermal assembly design, contact Phononic.

Typical Performance Curves

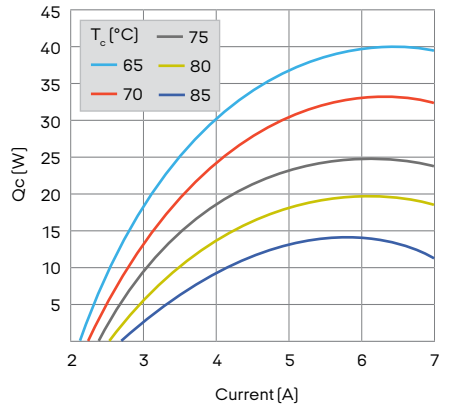
Coefficient of Performance, $T_h = 45^\circ\text{C}$



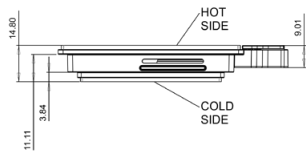
Voltage vs. Current, $T_h = 45^\circ\text{C}$



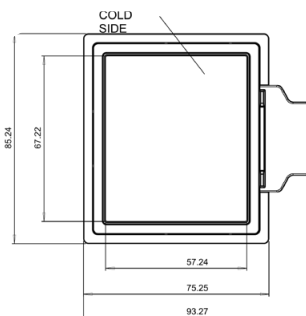
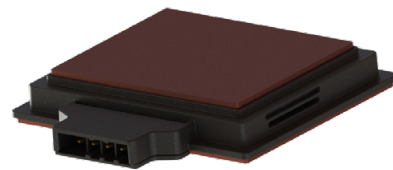
Heat Transferred, $T_h = 45^\circ\text{C}$



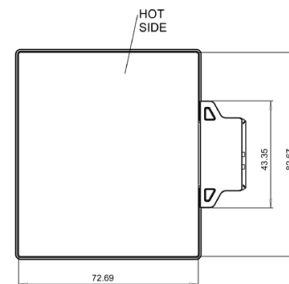
Mechanical Characteristics



Side view



Bottom view



Top view

Find the right solution with Phononic
Contact us to learn more