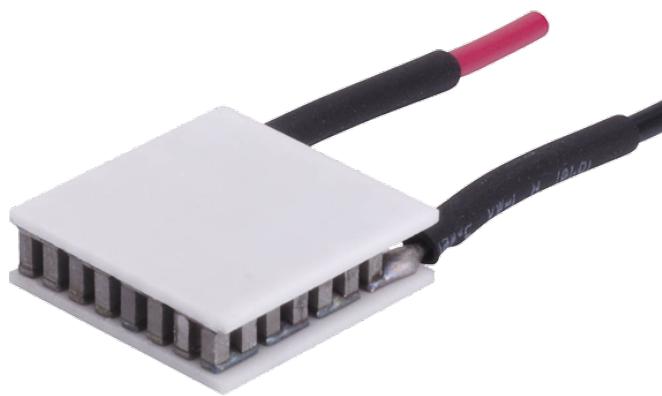


Ceramic Plate Series Thermoelectric Cooler

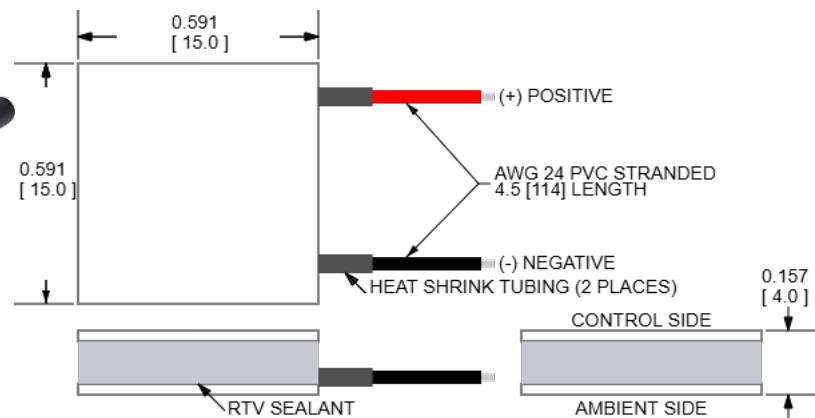
The CP10-31-08-L1-RT-W4.5 is a high-performance and highly reliable standard Thermoelectric Cooler. Assembled with Bismuth Telluride semiconductor material and thermally conductive Aluminum Oxide ceramics. It has a maximum Q_c of 5.1 Watts when $\Delta T = 0$ and a maximum ΔT of 70.5 °C at $Q_c = 0$.

**Features**

- Compact geometric sizes
- DC Operation
- RoHS-compliant

Applications

- Thermoelectric Coolers for Reagent Storage
- Thermoelectric Coolers for Handheld Cosmetic Lasers
- Cooling for Centrifuges
- Peltier Cooling for Machine Vision

CERAMIC MATERIAL: Al_2O_3

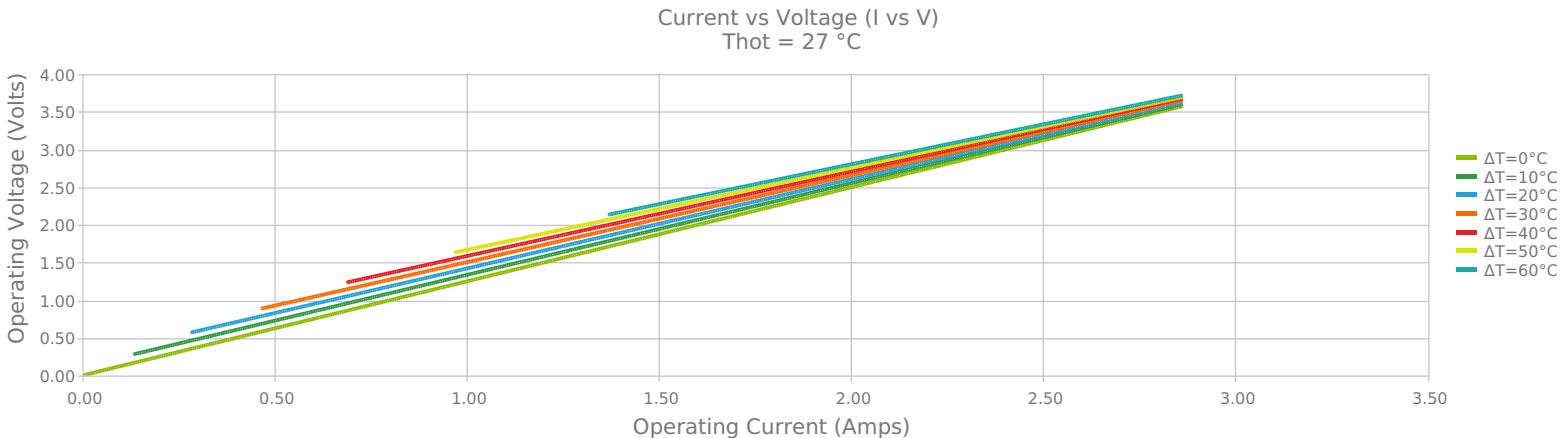
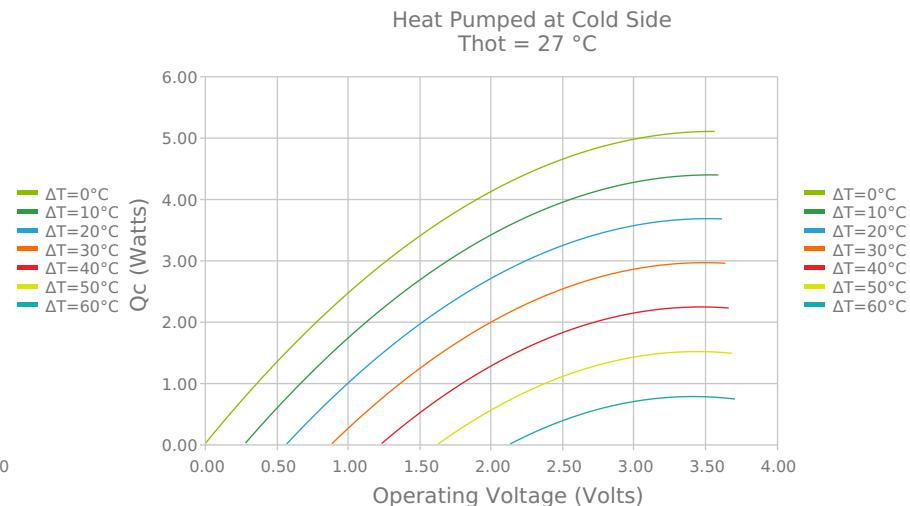
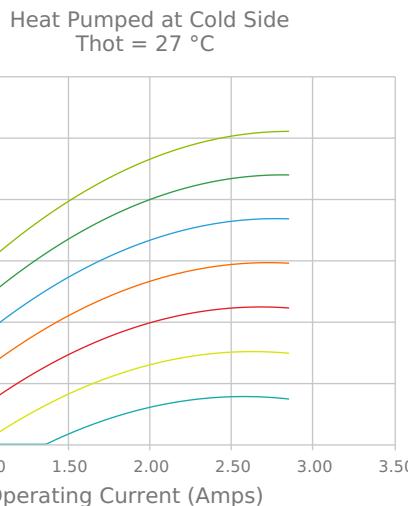
SOLDER CONSTRUCTION: 138°C, BiSn

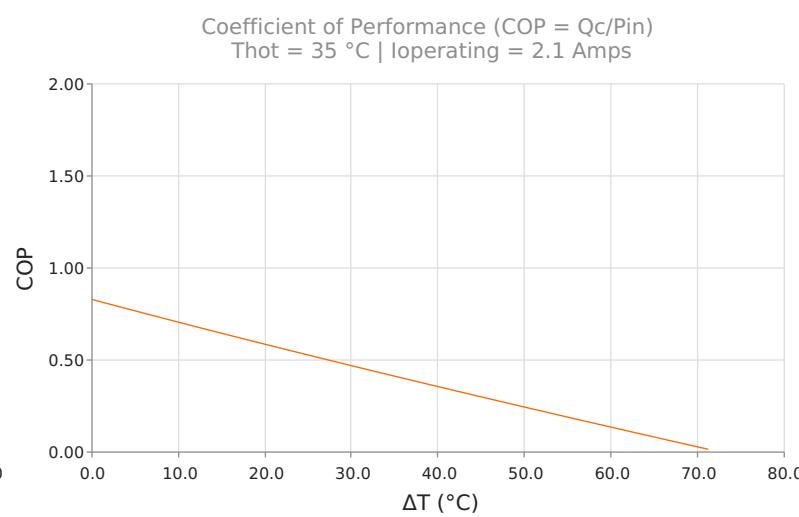
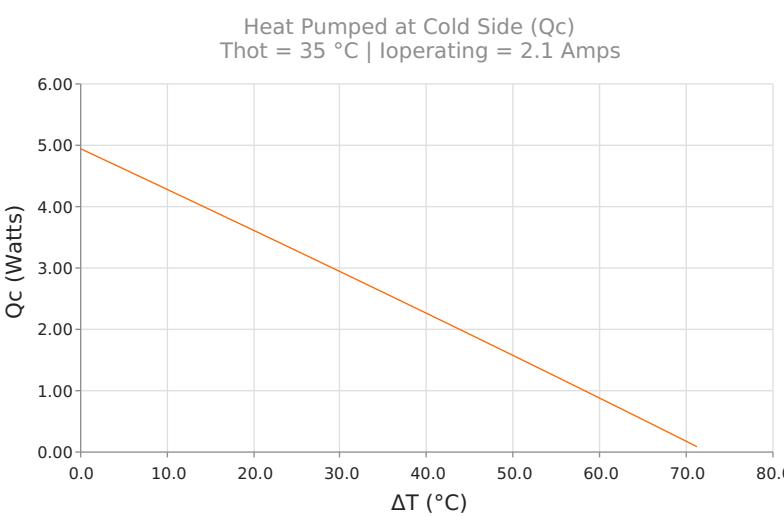
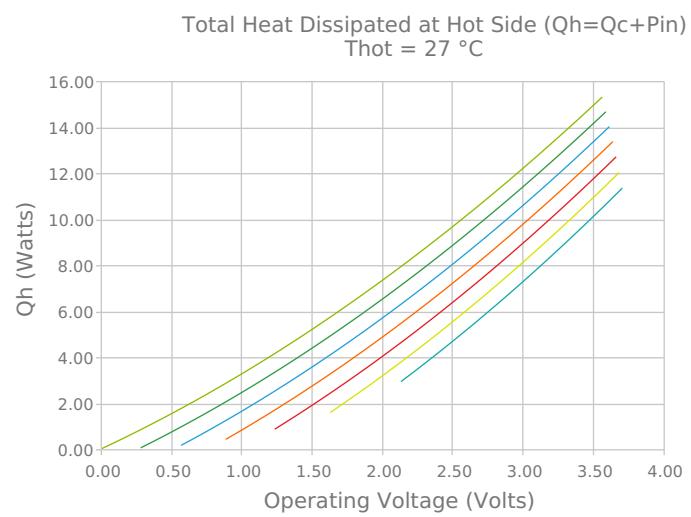
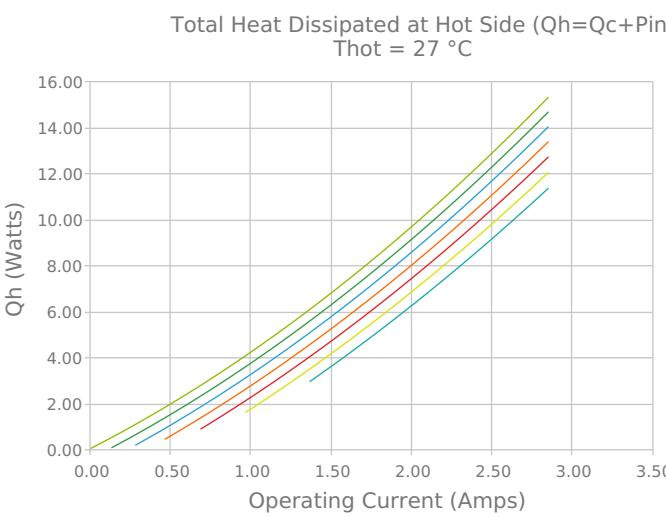
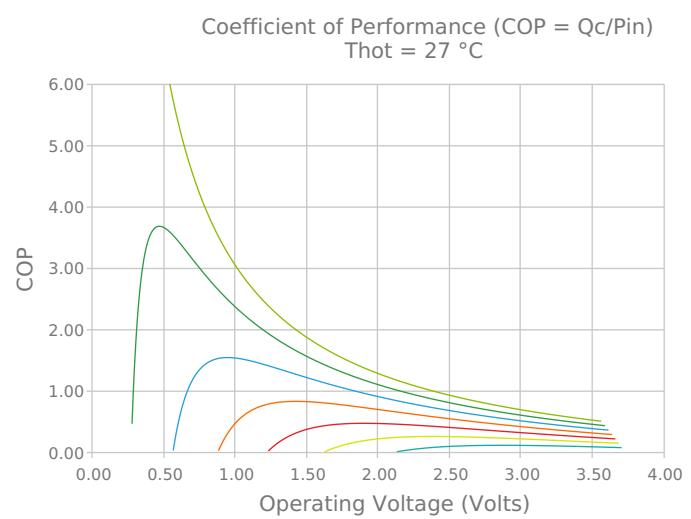
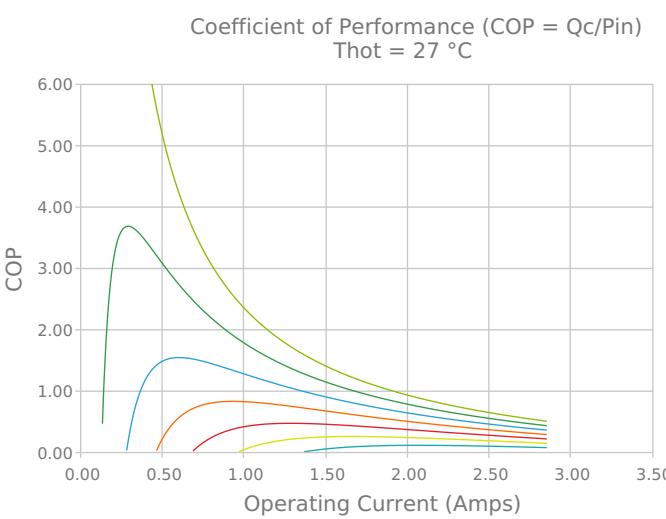
INCHES [MM]

Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

Electrical and Thermal Performance

For maximum performance, be sure to orient the CONTROL side of the TEC against the application to be managed and the AMBIENT side against the heat sink or other heat rejection method. The CONTROL side is always opposite the side with lead attachments. Lead attachment is a passive heat loss and less impactful if located on the side that attaches to the heat exchanger.





Specifications

Hot Side Temperature	27.0 °C	35.0 °C	50.0 °C
Qcmax ($\Delta T = 0$)	5.1 Watts	5.3 Watts	5.5 Watts
ΔT_{max} ($Q_c = 0$)	70.5°C	73.5°C	78.8°C
I _{max} (I @ ΔT_{max})	2.5 Amps	2.5 Amps	2.5 Amps
V _{max} (V @ ΔT_{max})	3.4 Volts	3.5 Volts	3.8 Volts
Module Resistance	1.25 Ohms	1.30 Ohms	1.40 Ohms
Max Operating Temperature	80 °C		
Weight	4.0 gram(s)		

Finishing Options

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
L1	3.988 ±0.025 mm 0.157 ± 0.0010 in	0.025 mm / 0.025 mm 0.001 in / 0.001 in	Lapped	Lapped	114.3 mm 4.50 in

Sealing Options

Suffix	Sealant	Color	Temp Range	Description
RT	RTV	Translucent or White	-60 to 204°C	Non-corrosive, silicone adhesive

Notes

Max operating temperature: 80°C
Do not exceed I_{max} or V_{max} when operating module
Reference assembly guidelines for recommended installation
Solder tinning also available on metallized ceramics

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