Ceramic Plate Series CP2-31-06-L1-W4.5
MFG Part Number: 57125-501

Ceramic Plate Series Thermoelectric Cooler

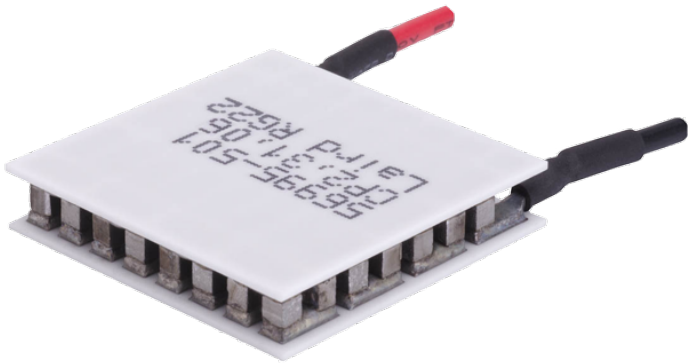
The CP2-31-06-L1-W4.5 is a high-performance and highly reliable standard Thermoelectric Cooler. Assembled with Bismuth Telluride semiconductor material and thermally conductive Aluminum Oxide ceramics. It has a maximum Qc of 28.8 Watts when ΔT = 0 and a maximum ΔT of 70.5 °C at Qc = 0.

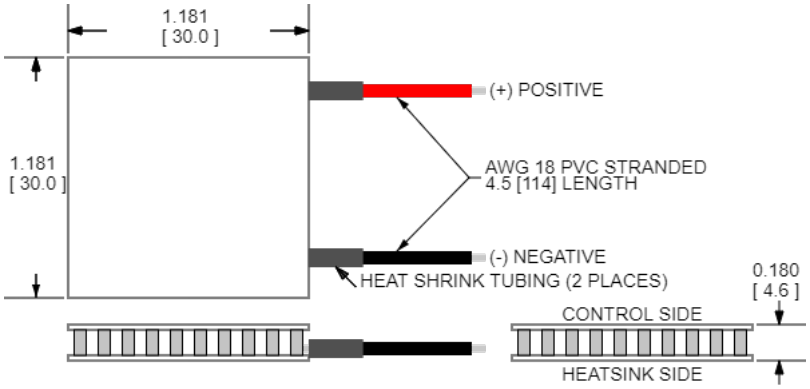
Features

- Compact geometric sizes
- DC Operation
- RoHS-compliant

Applications

- Thermoelectric Coolers for Reagent Storage
- Thermoelectric Coolers for Handheld Cosmetic Lasers
- Cooling for Centrifuges
- Heads-Up Displays, Imaging Sensors
- Peltier Cooling for Machine Vision



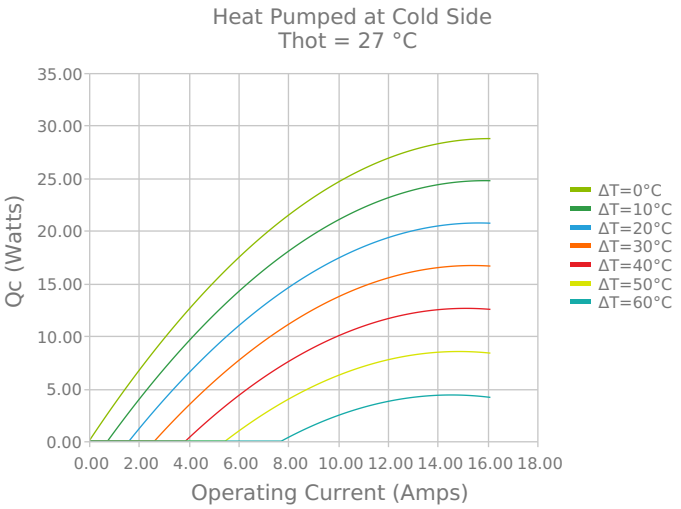


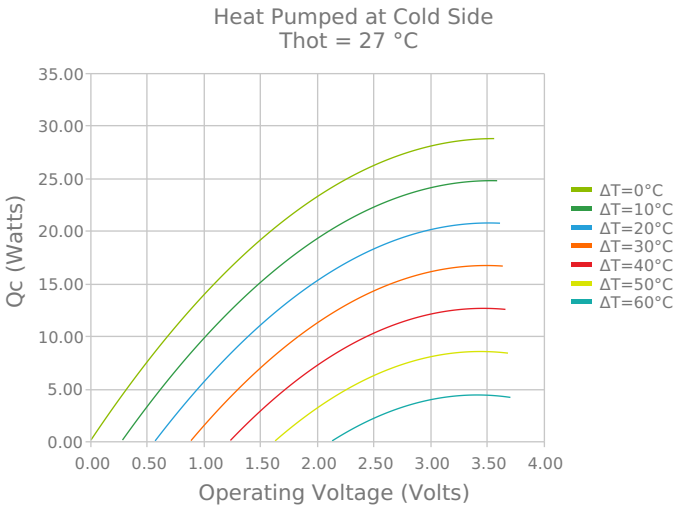
CERAMIC MATERIAL: Al_2O_3
SOLDER CONSTRUCTION: 138°C, BiSn

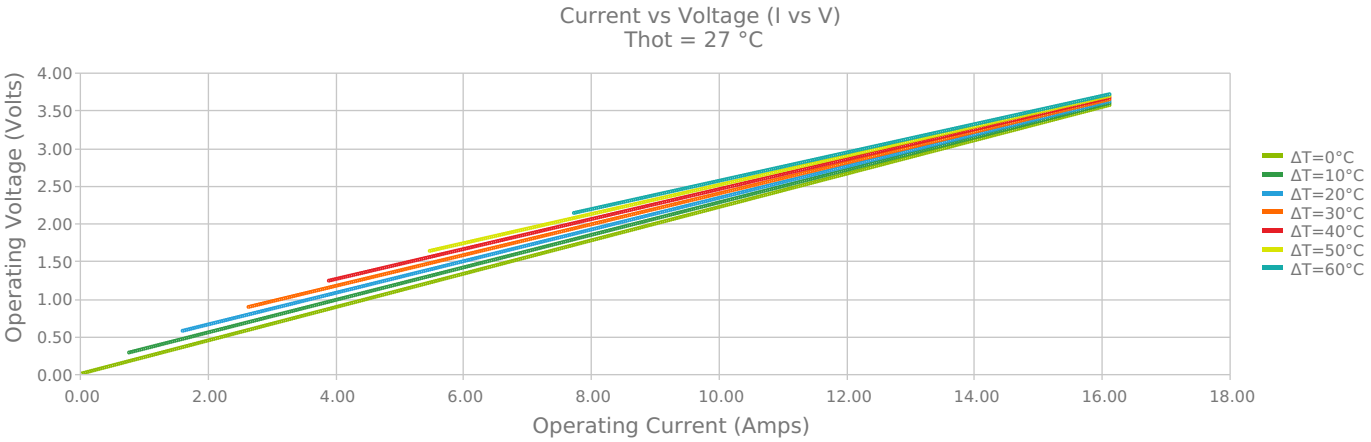
INCHES [MM]

ELECTRICAL AND THERMAL PERFORMANCE

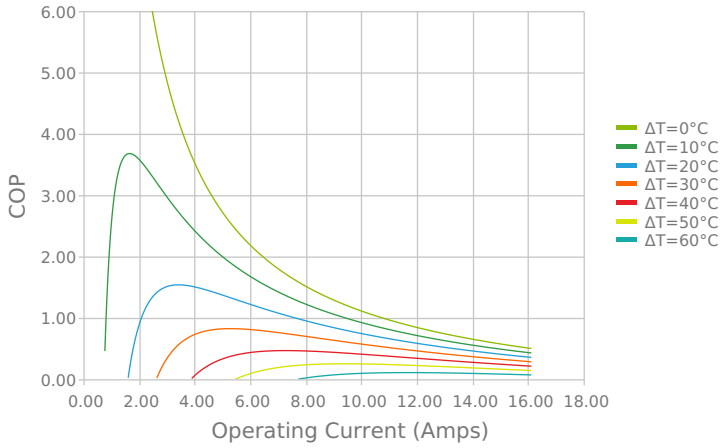
For maximum performance, be sure to orient the CONTROL side of the TEC against the application to be managed and the HEATSINK side against the heat sink or other heat rejection method. The CONTROL side is always opposite the side with lead attachments. Lead attachment is a passive heat loss and less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



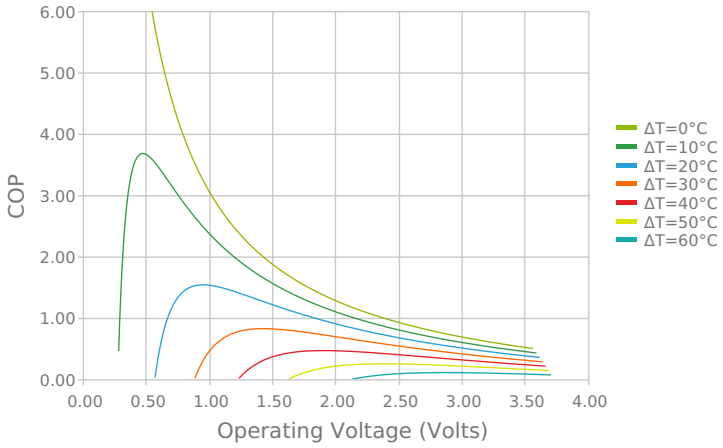




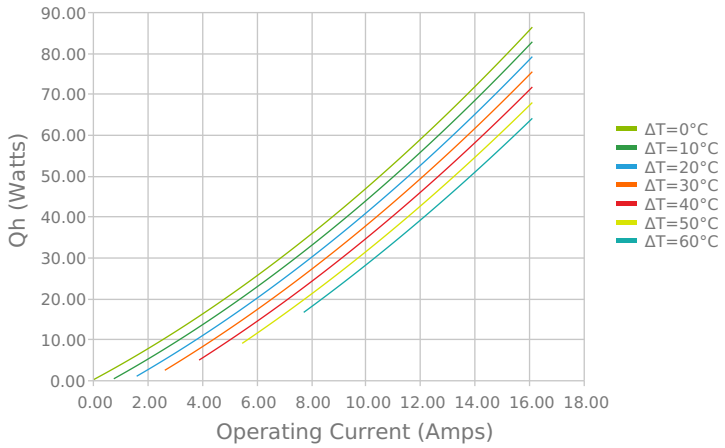
Coefficient of Performance (COP = Qc/Pin)
Thot = 27 °C



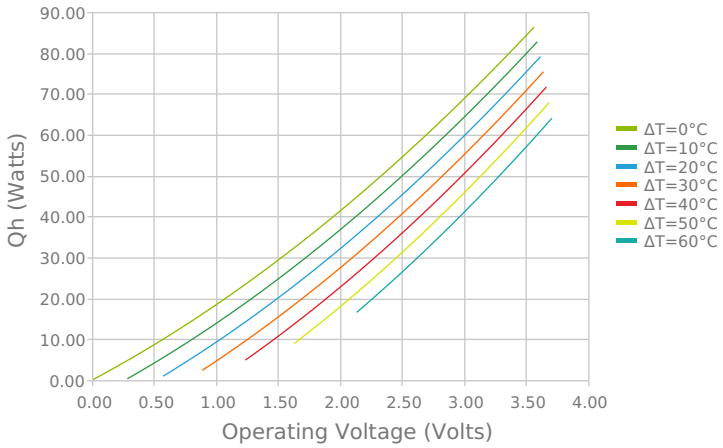
Coefficient of Performance (COP = Qc/Pin)
Thot = 27 °C



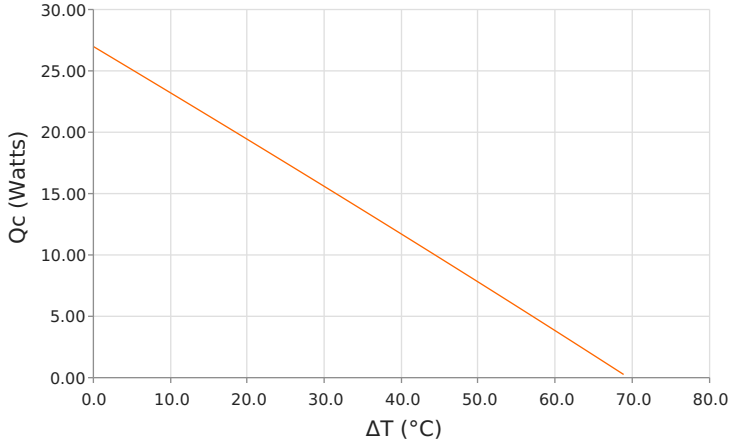
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 27 °C



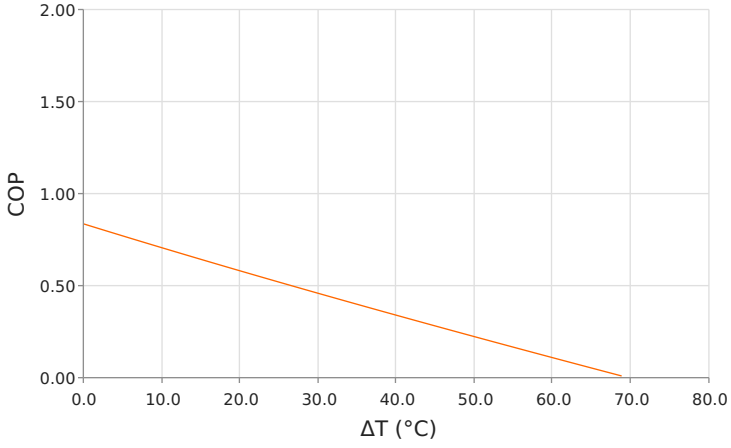
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 27 °C



Heat Pumped at Cold Side (Qc)
Thot = 27 °C | Current = 12.1 Amps



Coefficient of Performance (COP = Qc/Pin)
Thot = 27 °C | Current = 12.1 Amps



SPECIFICATIONS*

Hot Side Temperature	27.0 °C	35.0 °C	50.0 °C
Qcmax (ΔT = 0)	28.8 Watts	29.6 Watts	31.2 Watts
ΔTmax (Qc = 0)	70.5°C	73.5°C	78.8°C
Imax (I @ ΔTmax)	14.2 Amps	14.2 Amps	14.0 Amps
Vmax (V @ ΔTmax)	3.4 Volts	3.5 Volts	3.8 Volts
Module Resistance	0.22 Ohms	0.23 Ohms	0.25 Ohms
Max Operating Temperature	80 °C		
Weight	18.0 gram(s)		

* Specifications reflect thermoelectric coefficients updated March 2020

FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
L1	4.572 ±0.025 mm 0.180 ± 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
	None			No sealing specified

NOTES

1. Max operating temperature: 80°C
2. Do not exceed Imax or Vmax when operating module
3. Reference assembly guidelines for recommended installation
4. Solder tinning also available on metallized ceramics

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