Ceramic Plate Series CP14-71-045-L1-RT-W4.5
MFG Part Number: 430032-502

Ceramic Plate Series Thermoelectric Cooler

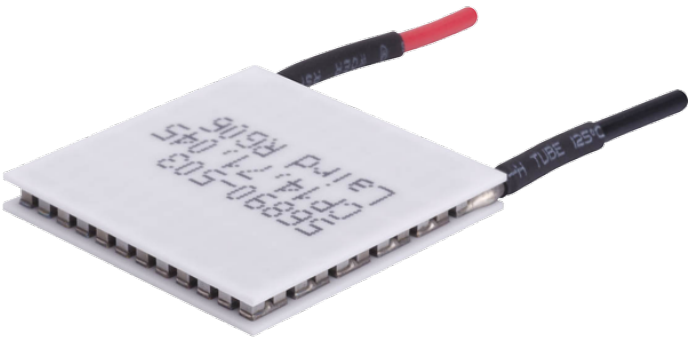
The CP14-71-045-L1-RT-W4.5 is a high-performance and highly reliable standard Thermoelectric Cooler. Assembled with Bismuth Telluride semiconductor material and thermally conductive Aluminum Oxide ceramics. It has a maximum Qc of 39.9 Watts when ΔT = 0 and a maximum ΔT of 70.5 °C at Qc = 0.

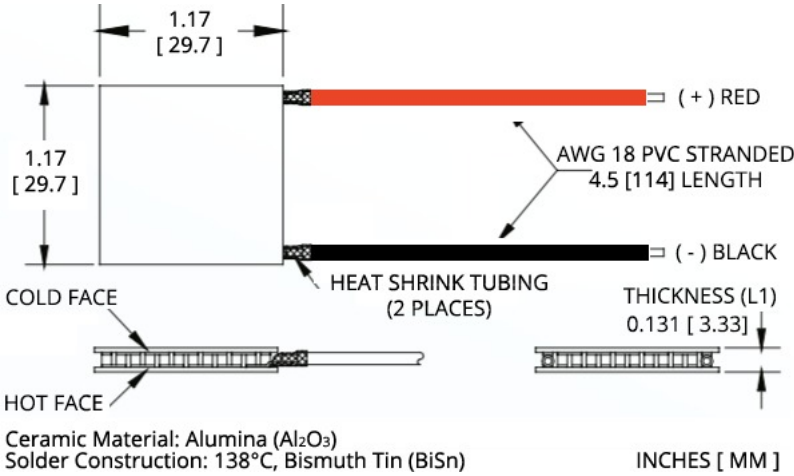
Features

- Compact geometric sizes
- DC Operation
- RoHS-compliant

Applications

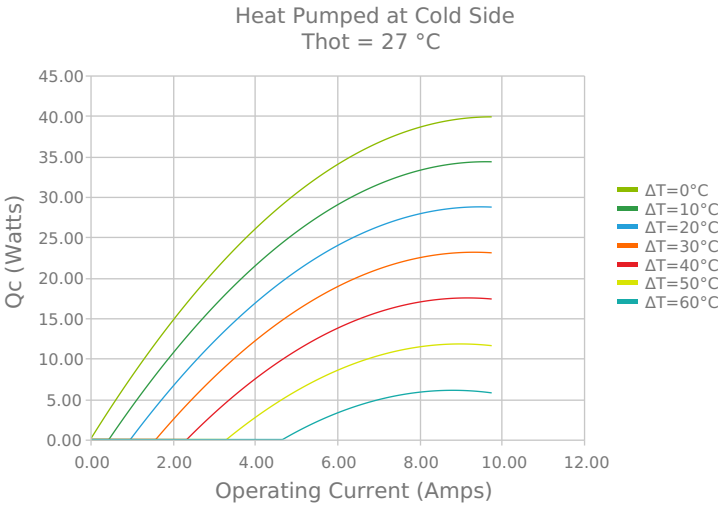
- Thermoelectric Coolers for Reagent Storage
- Thermoelectric Coolers for Handheld Cosmetic Lasers
- Cooling for Centrifuges
- Heads-Up Displays, Imaging Sensors
- Peltier Cooling for Machine Vision

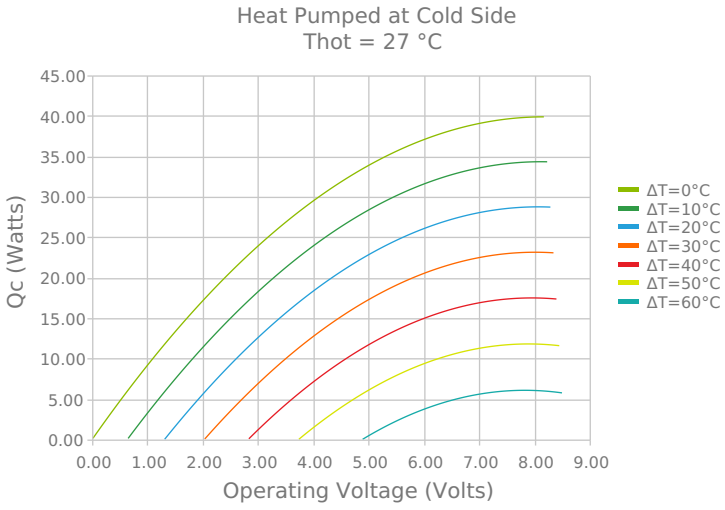


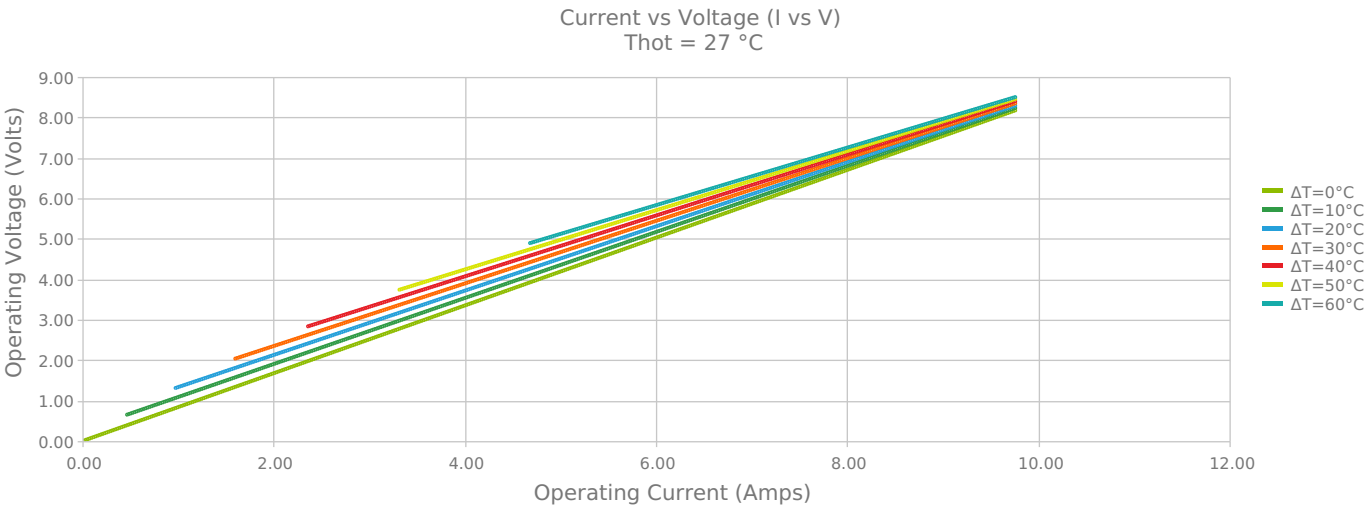


Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

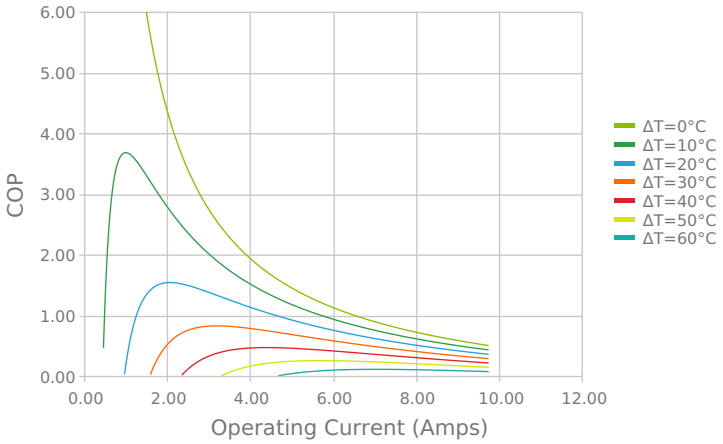
ELECTRICAL AND THERMAL PERFORMANCE







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



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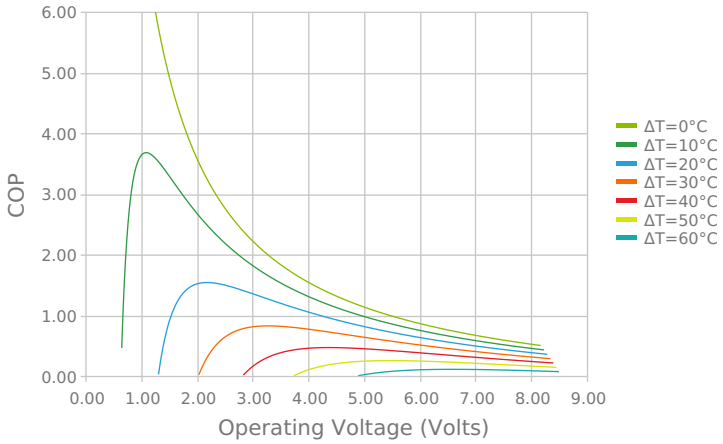
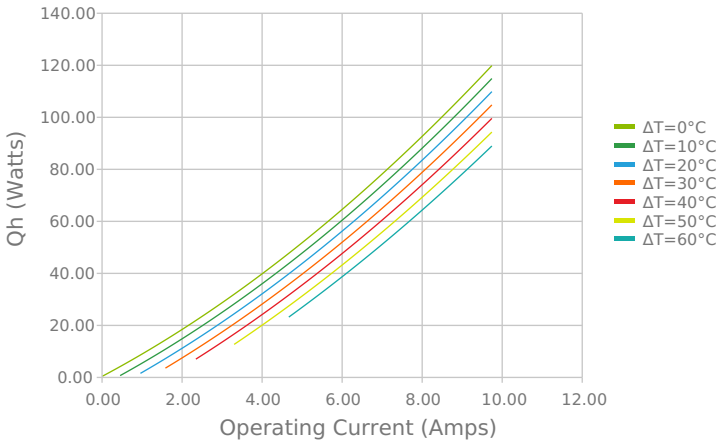
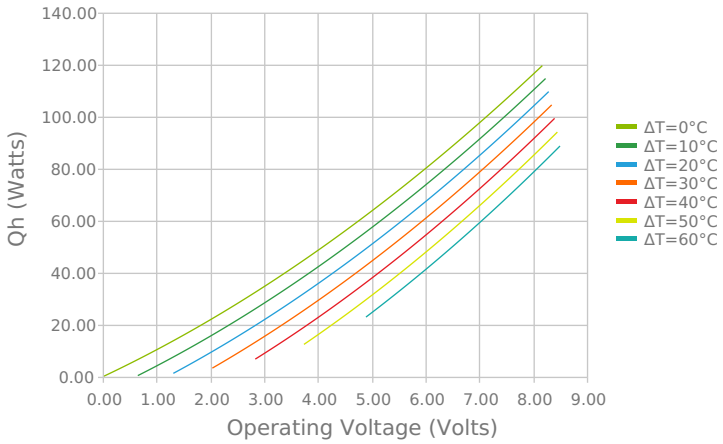


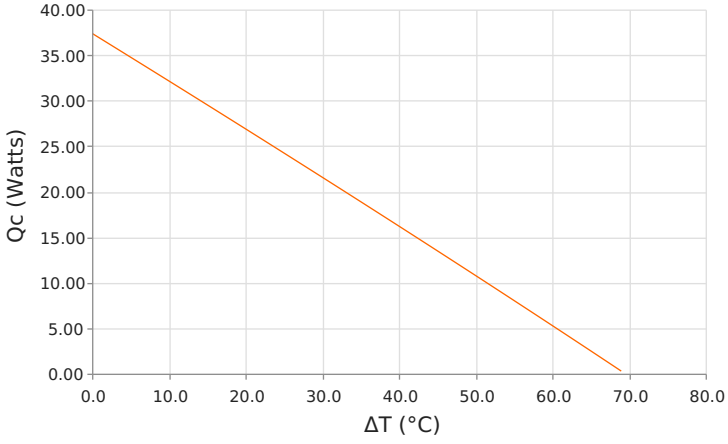
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 27 °C



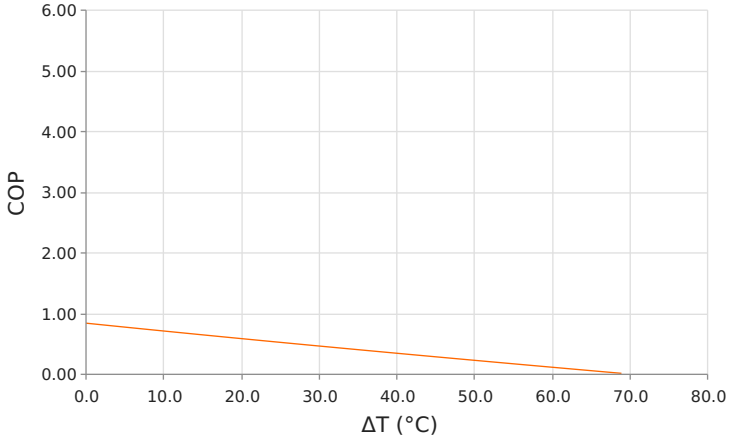
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 27 °C



Heat Pumped at Cold Side (Qc)
Thot = 27 °C | Current = 7.3 Amps



Coefficient of Performance (COP = Qc/Pin)
Thot = 27 °C | Current = 7.3 Amps



SPECIFICATIONS*

Hot Side Temperature	27.0 °C	35.0 °C	50.0 °C
Qcmax (ΔT = 0)	39.9 Watts	41.1 Watts	43.2 Watts
ΔTmax (Qc = 0)	70.5°C	73.5°C	78.8°C
Imax (I @ ΔTmax)	8.6 Amps	8.6 Amps	8.5 Amps
Vmax (V @ ΔTmax)	7.8 Volts	8.1 Volts	8.6 Volts
Module Resistance	0.84 Ohms	0.87 Ohms	0.94 Ohms
Max Operating Temperature	80 °C		
Weight	12.0 gram(s)		

* Specifications reflect thermoelectric coefficients updated March 2020

FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
L1	3.327 ±0.025 mm 0.131 ± 0.001 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	White	-60 to 204°C	Non-corrosive, silicone adhesive

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

Date: 04/24/2020