

Ceramic Plate Series Thermoelectric Cooler

The CP2-71-10-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 Q_c of 43 Watts when $\Delta T = 0$ and a maximum ΔT of 70.5 °C at $Q_c = 0$.

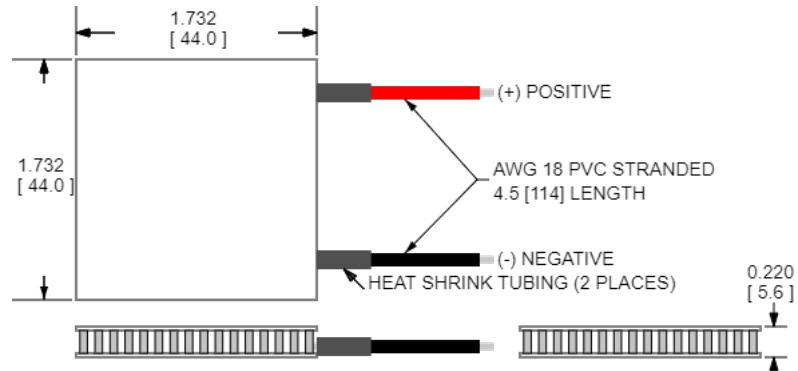


Features

- Compact geometric sizes
- DC Operation
- RoHS-compliant

Applications

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

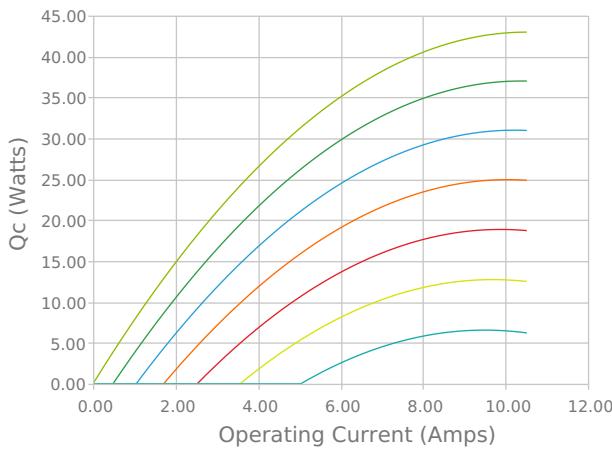


CERAMIC MATERIAL: Al_2O_3
SOLDER CONSTRUCTION: 138°C, BiSn

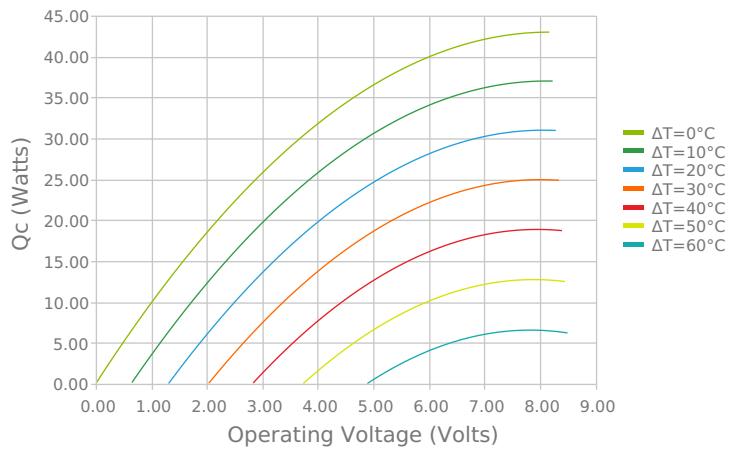
INCHES [MM]

ELECTRICAL AND THERMAL PERFORMANCE

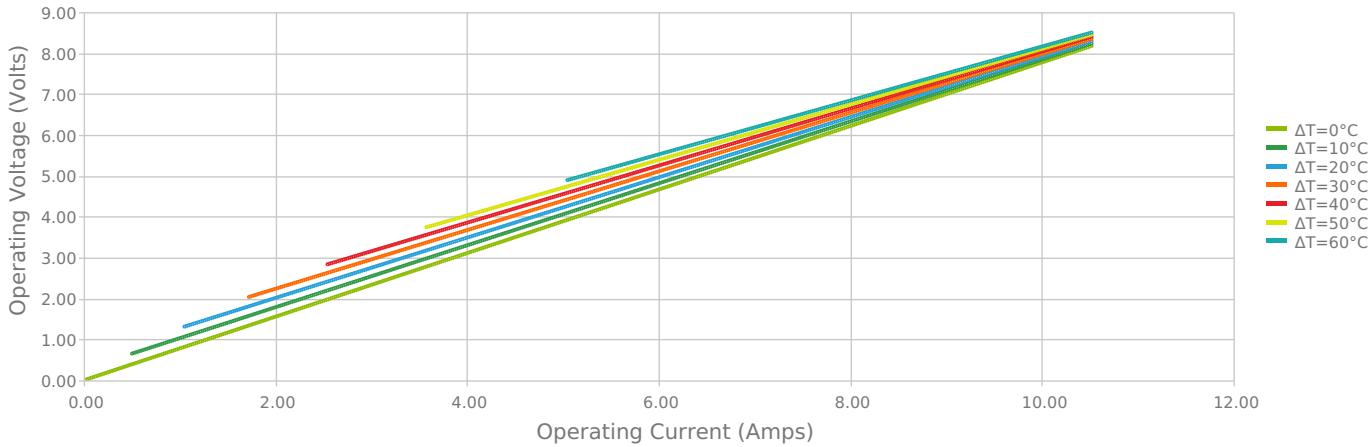
Heat Pumped at Cold Side
 $\text{Thot} = 27^\circ\text{C}$

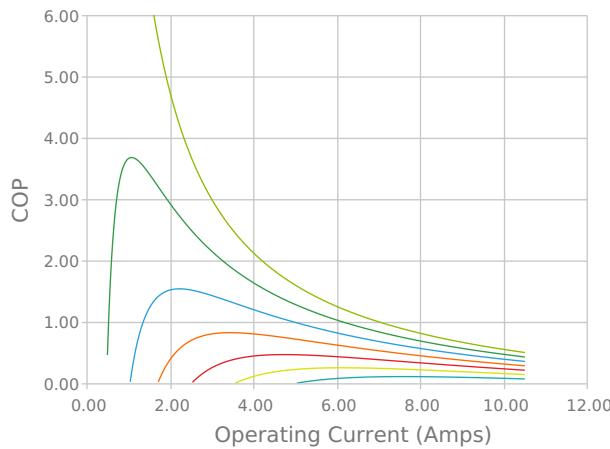
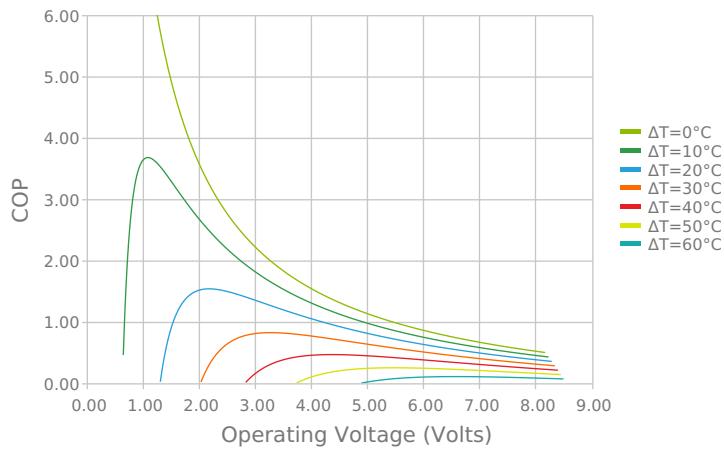
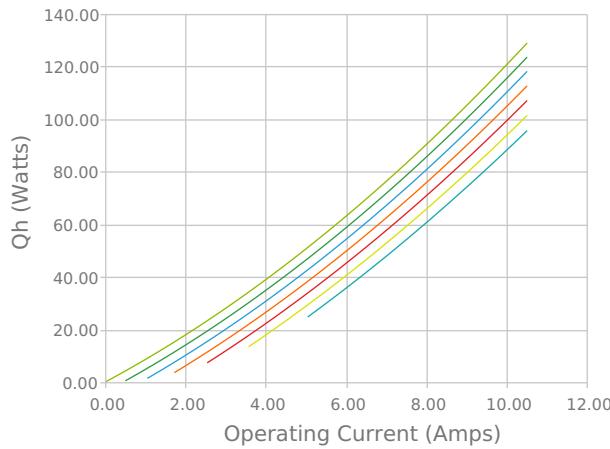
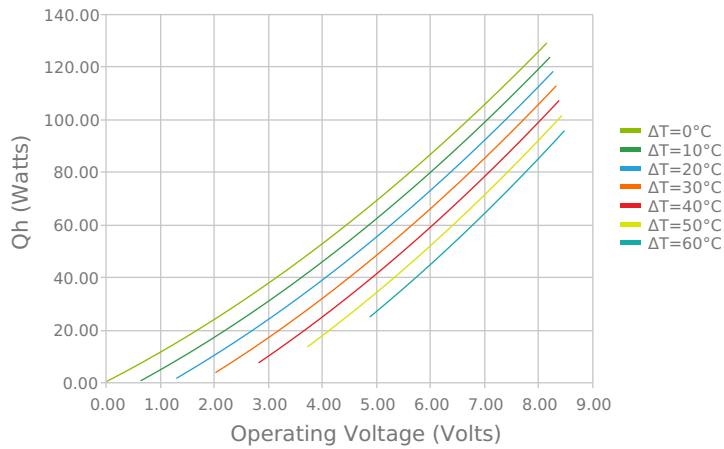
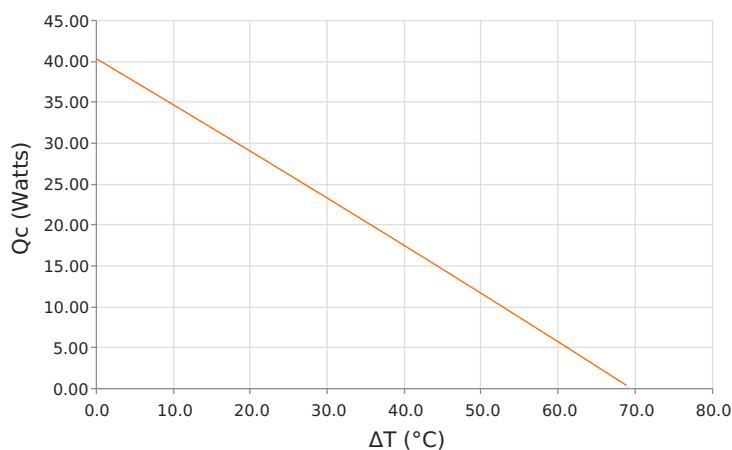
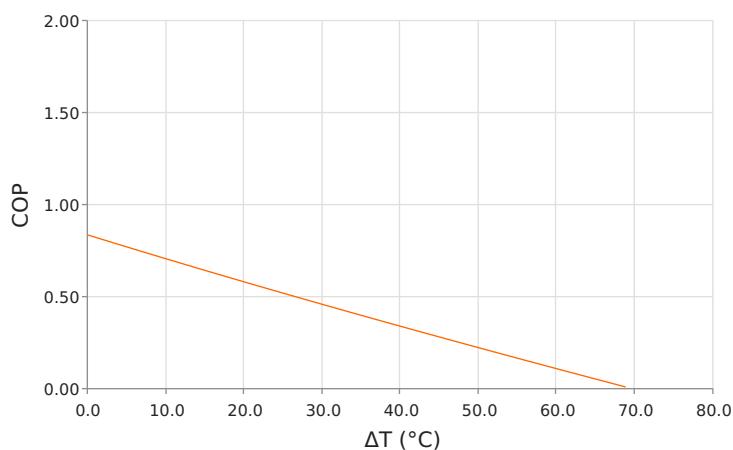


Heat Pumped at Cold Side
 $\text{Thot} = 27^\circ\text{C}$



Current vs Voltage (I vs V)
 $\text{Thot} = 27^\circ\text{C}$



Coefficient of Performance (COP = Q_c/P_{in})
Thot = 27 °C

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 Total Heat Dissipated at Hot Side ($Q_h = Q_c + P_{in}$)
Thot = 27 °C

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Thot = 27 °C

 Heat Pumped at Cold Side (Q_c)
Thot = 27 °C | Current = 7.9 Amps

 Coefficient of Performance (COP = Q_c/P_{in})
Thot = 27 °C | Current = 7.9 Amps


SPECIFICATIONS*

	27.0 °C	35.0 °C	50.0 °C
Qcmax (ΔT = 0)	43.0 Watts	44.3 Watts	46.6 Watts
ΔTmax (Qc = 0)	70.5°C	73.5°C	78.8°C
I_{max} (I @ ΔT_{max})	9.3 Amps	9.2 Amps	9.1 Amps
V_{max} (V @ ΔT_{max})	7.8 Volts	8.1 Volts	8.6 Volts
Module Resistance	0.78 Ohms	0.81 Ohms	0.87 Ohms
Max Operating Temperature	80 °C		
Weight	43.0 gram(s)		

* Specifications reflect thermoelectric coefficients updated March 2020

FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
L1	5.588 ± 0.025 mm 0.220 ± 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 I_{max} or V_{max} when operating module
3. Reference assembly guidelines for recommended installation
4. Solder tinning also available on metallized ceramics

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