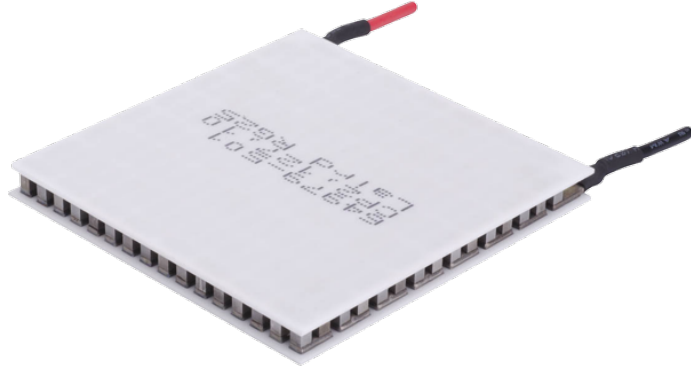


Ceramic Plate Series Thermoelectric Cooler

The CP2-127-10-L2-EP-W12 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 76.9 Watts when ΔT = 0 and a maximum ΔT of 70.5 °C at Qc = 0.

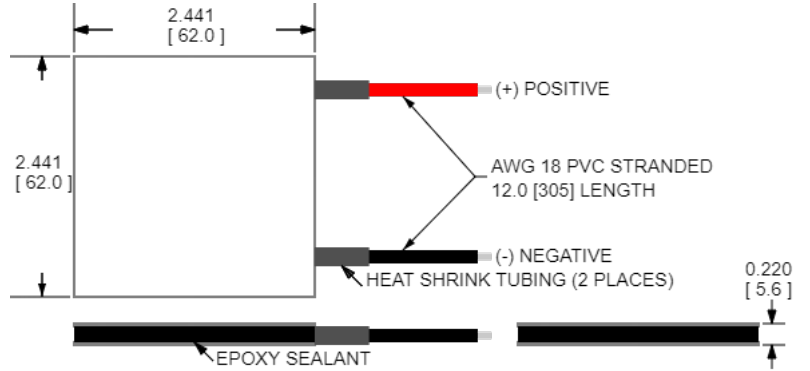


Features

- 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



CERAMIC MATERIAL: Al₂O₃

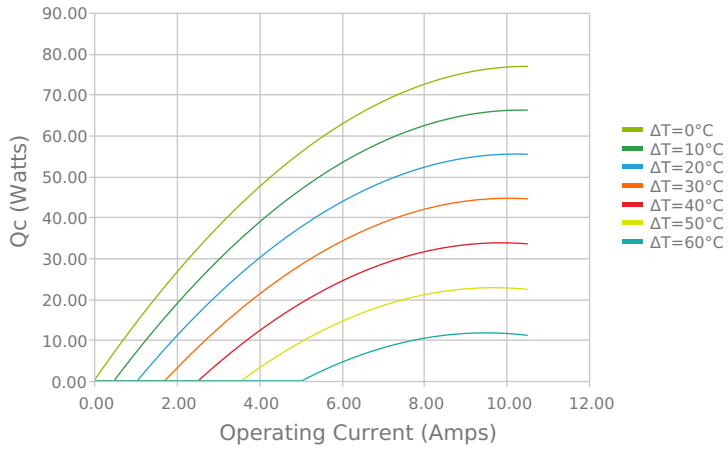
SOLDER CONSTRUCTION: 138°C, BiSn

INCHES [MM]

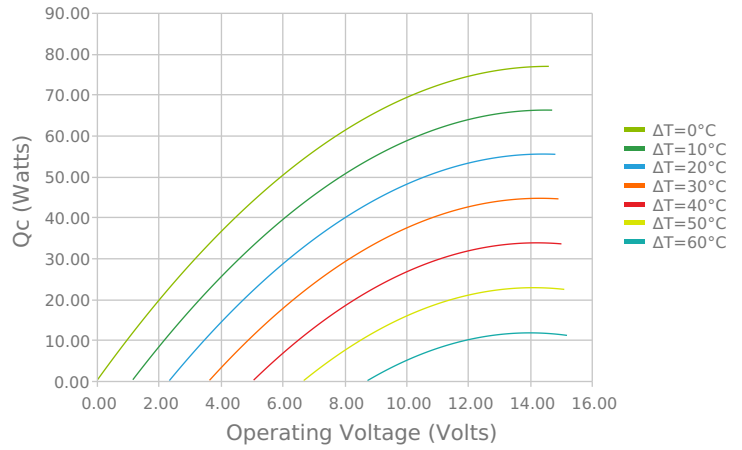
Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

ELECTRICAL AND THERMAL PERFORMANCE

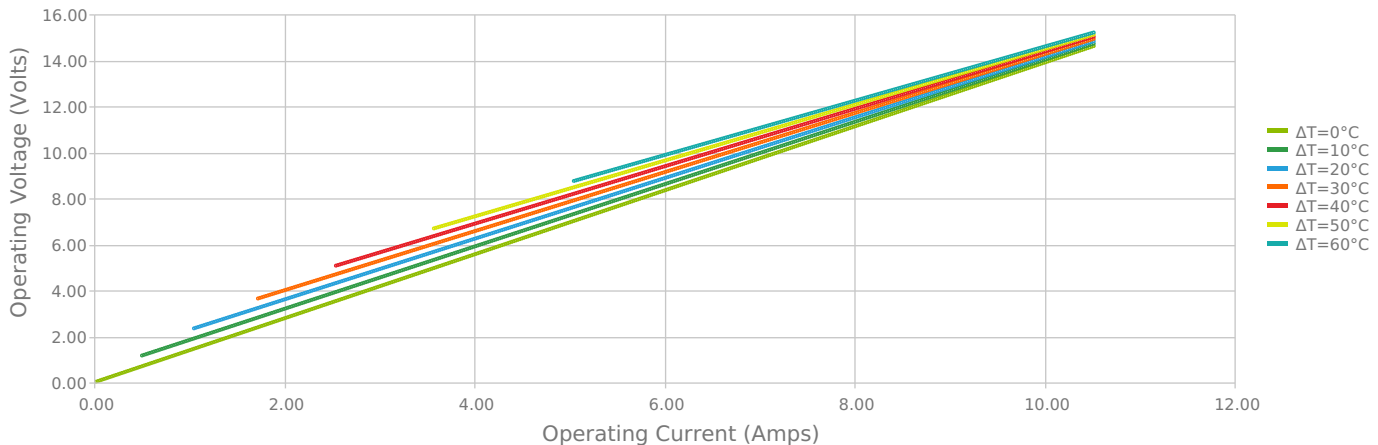
Heat Pumped at Cold Side
 Thot = 27 °C



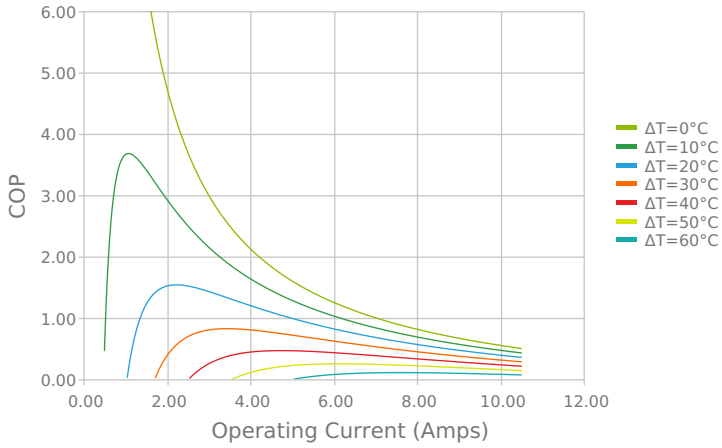
Heat Pumped at Cold Side
 Thot = 27 °C



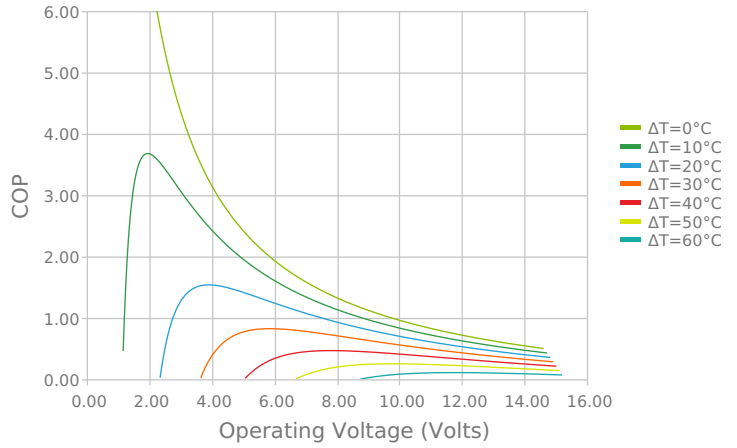
Current vs Voltage (I vs V)
 Thot = 27 °C



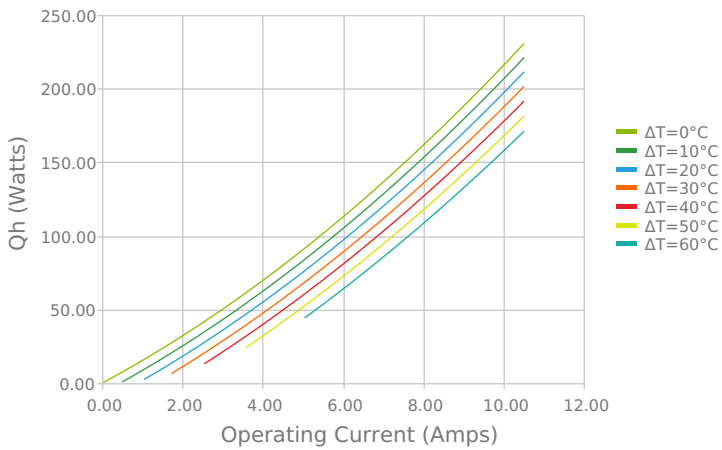
Coefficient of Performance (COP = Q_c/P_{in})
 $T_{hot} = 27\text{ }^\circ\text{C}$



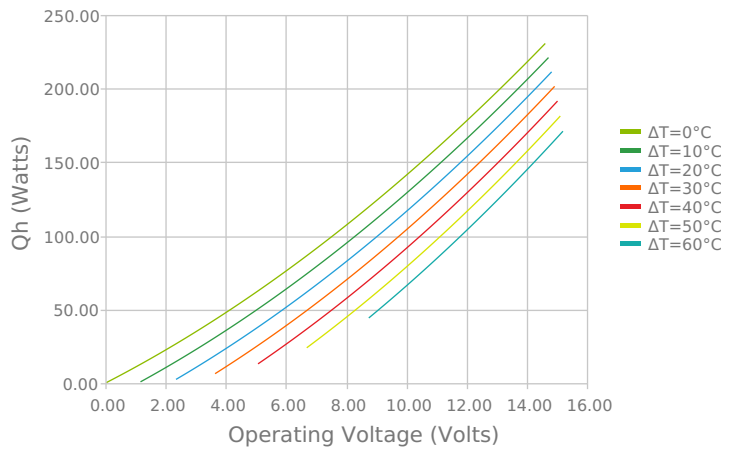
Coefficient of Performance (COP = Q_c/P_{in})
 $T_{hot} = 27\text{ }^\circ\text{C}$



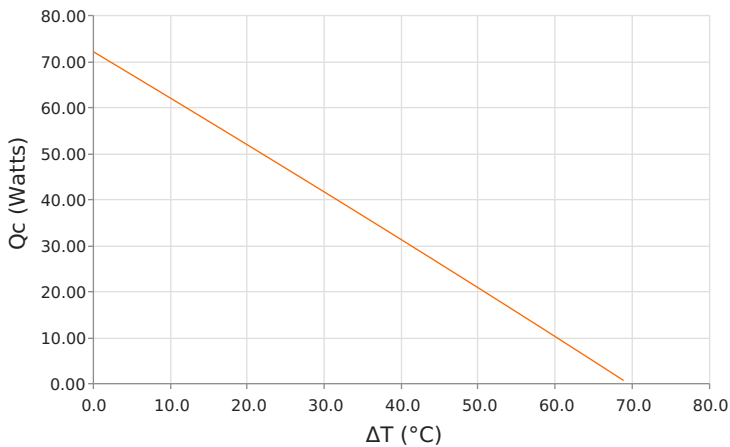
Total Heat Dissipated at Hot Side ($Q_h=Q_c+P_{in}$)
 $T_{hot} = 27\text{ }^\circ\text{C}$



Total Heat Dissipated at Hot Side ($Q_h=Q_c+P_{in}$)
 $T_{hot} = 27\text{ }^\circ\text{C}$



Heat Pumped at Cold Side (Q_c)
 $T_{hot} = 27\text{ }^\circ\text{C}$ | Current = 7.9 Amps



Coefficient of Performance (COP = Q_c/P_{in})
 $T_{hot} = 27\text{ }^\circ\text{C}$ | Current = 7.9 Amps



SPECIFICATIONS*

	27.0 °C	35.0 °C	50.0 °C
Hot Side Temperature			
Qcmax ($\Delta T = 0$)	76.9 Watts	79.2 Watts	83.3 Watts
ΔT_{max} ($Q_c = 0$)	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})	13.9 Volts	14.4 Volts	15.4 Volts
Module Resistance	1.39 Ohms	1.45 Ohms	1.56 Ohms
Max Operating Temperature	80 °C		
Weight	76.0 gram(s)		

* Specifications reflect thermoelectric coefficients updated March 2020

FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
L2	5.588 ±0.013 mm 0.220 ± 0.0005 in	0.013 mm / 0.013 mm 0.0005 in / 0.0005 in	Lapped	Lapped	304.8 mm 12.00 in

SEALING OPTIONS

Suffix	Sealant	Color	Temp Range	Description
EP	Epoxy	Black	-55 to 150°C	Low density syntactic foam epoxy encapsulant

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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