

## Ceramic Plate Series Thermoelectric Cooler

The CP14-199-06-L2-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 77.3 Watts when  $\Delta T = 0$  and a maximum  $\Delta T$  of 70.5 °C at  $Q_c = 0$ .

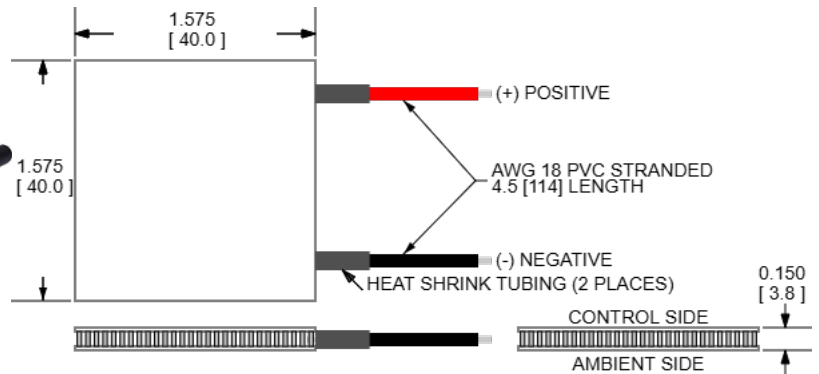


## Features

- 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:  $Al_2O_3$

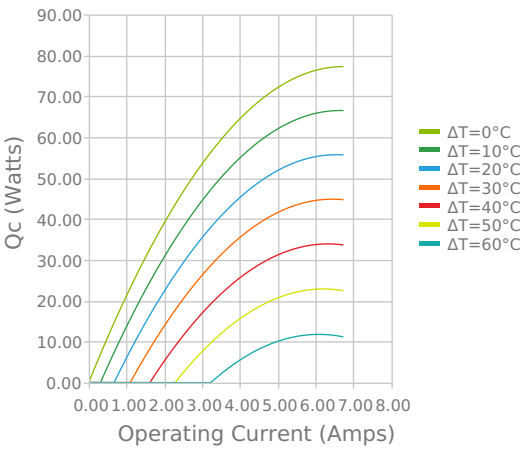
SOLDER CONSTRUCTION: 138°C, BiSn

INCHES [ MM ]

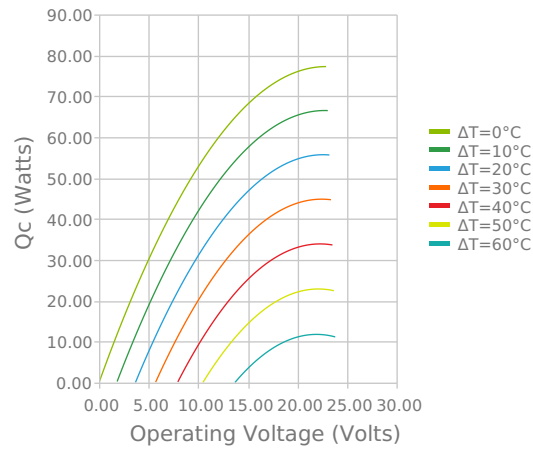
## Electrical and Thermal Performance

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.

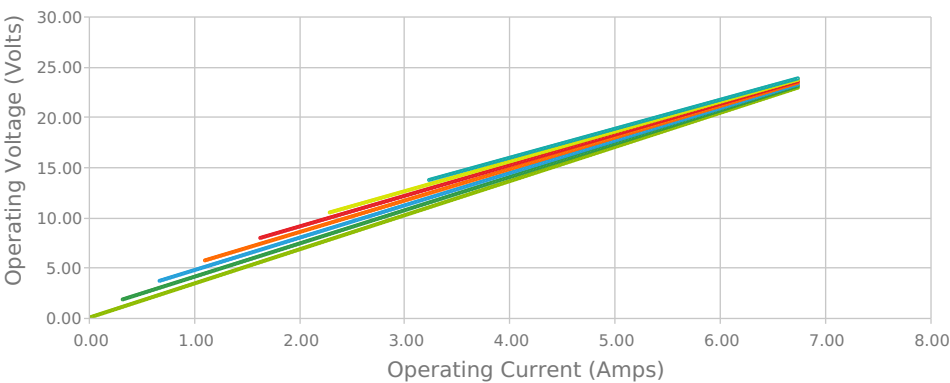
Heat Pumped at Cold Side  
 $T_{hot} = 27\text{ °C}$

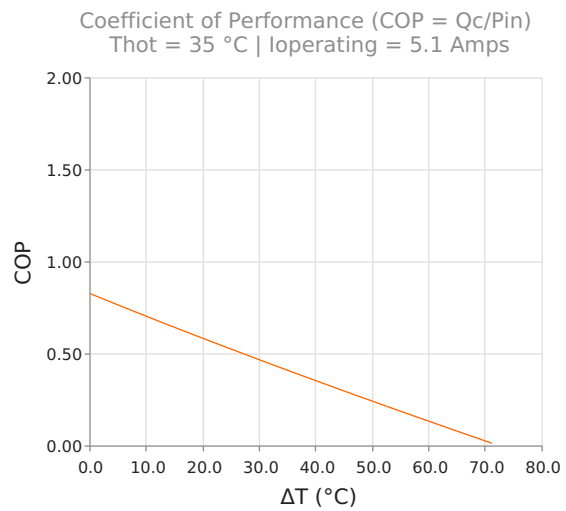
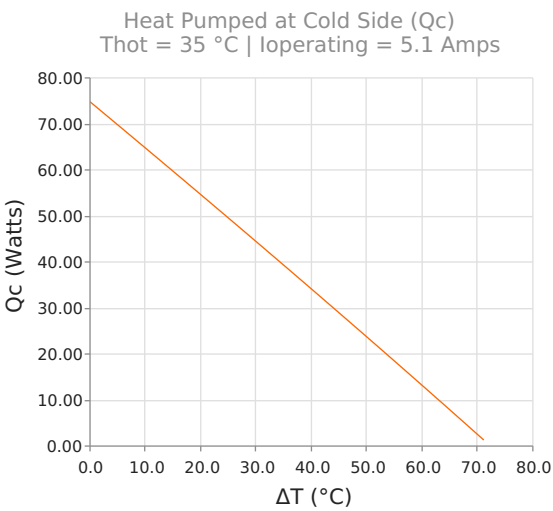
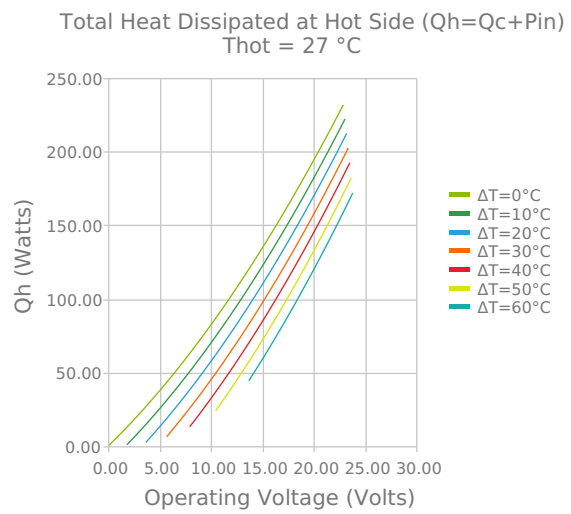
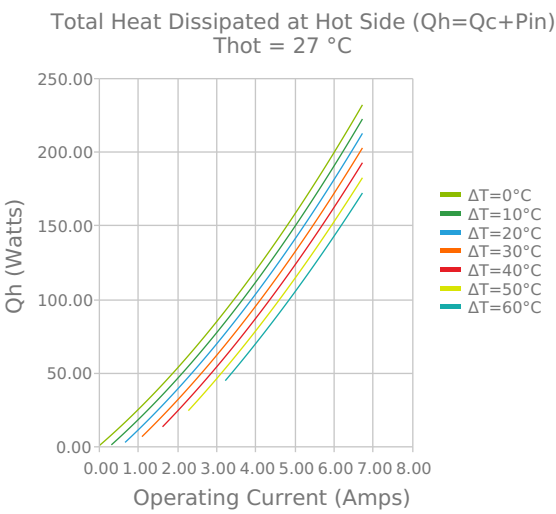
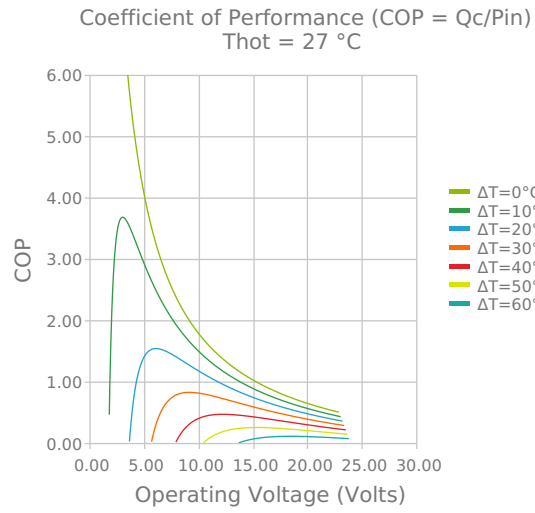
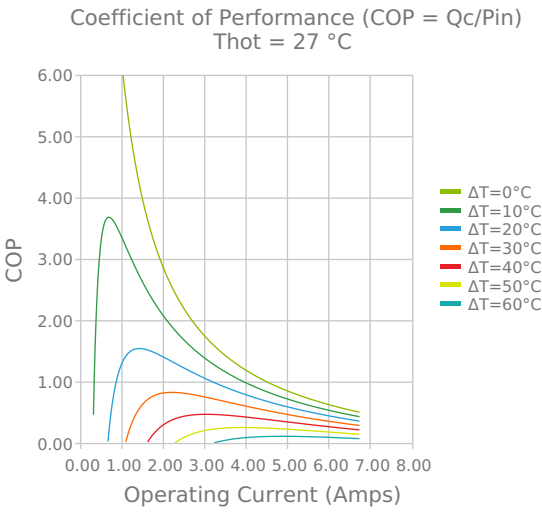


Heat Pumped at Cold Side  
 $T_{hot} = 27\text{ °C}$



Current vs Voltage (I vs V)  
 $T_{hot} = 27\text{ °C}$





Specifications

Hot Side Temperature	27.0 °C	35.0 °C	50.0 °C
Qcmax (ΔT = 0)	77.3 Watts	79.6 Watts	83.8 Watts
ΔTmax (Qc = 0)	70.5°C	73.5°C	78.8°C
I <sub>max</sub> (I @ ΔT <sub>max</sub> )	6.0 Amps	5.9 Amps	5.9 Amps
V <sub>max</sub> (V @ ΔT <sub>max</sub> )	21.7 Volts	22.6 Volts	24.1 Volts
Module Resistance	3.40 Ohms	3.54 Ohms	3.80 Ohms
Max Operating Temperature	80 °C		
Weight	27.0 gram(s)		

Finishing Options

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
L2	3.810 ±0.013 mm 0.150 ± 0.0005 in	0.013 mm / 0.013 mm 0.0005 in / 0.0005 in	Lapped	Lapped	114.3 mm 4.50 in

Sealing Options

Suffix	Sealant	Color	Temp Range	Description
	None			No sealing specified

Notes

Max operating temperature: 80°C  
Do not exceed I<sub>max</sub> or V<sub>max</sub> when operating module  
Reference assembly guidelines for recommended installation  
Solder tinning also available on metallized ceramics

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