

**Annular RH Series Thermoelectric Cooler**

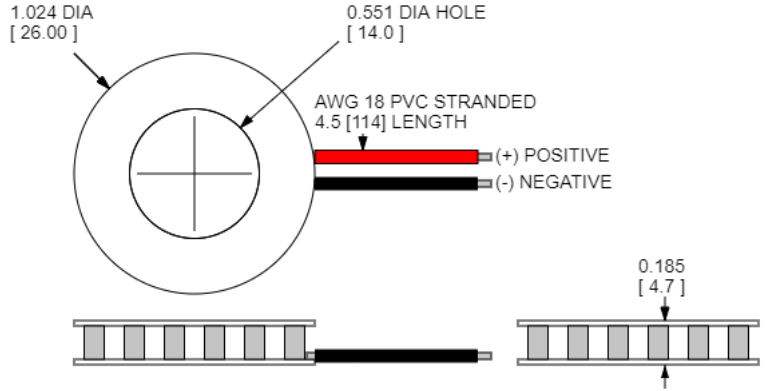
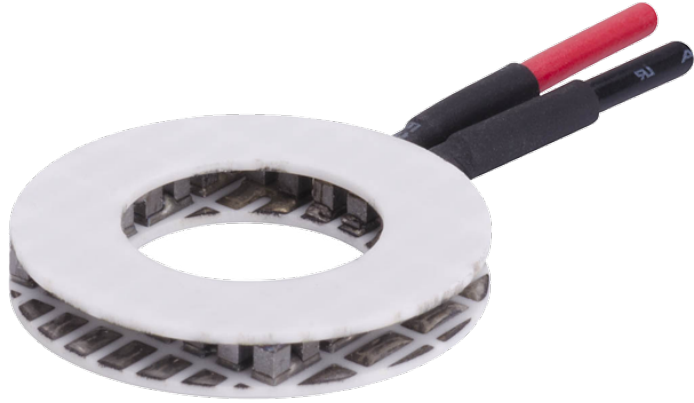
The RH14-14-10-L1-W4.5 is an annular thermoelectric cooler that is round in shape. The hot and cold side ceramics have a circular hole in the center to accommodate light protrusion for optics, mechanical fastening or temperature probe. It has a maximum  $Q_c$  of 3.5 Watts when  $\Delta T = 0$  and a maximum  $\Delta T$  of 70.5 °C at  $Q_c = 0$ .

**Features**

- Center Hole
- Precise Temperature Control
- No sound or vibration
- Reliable solid-state
- 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

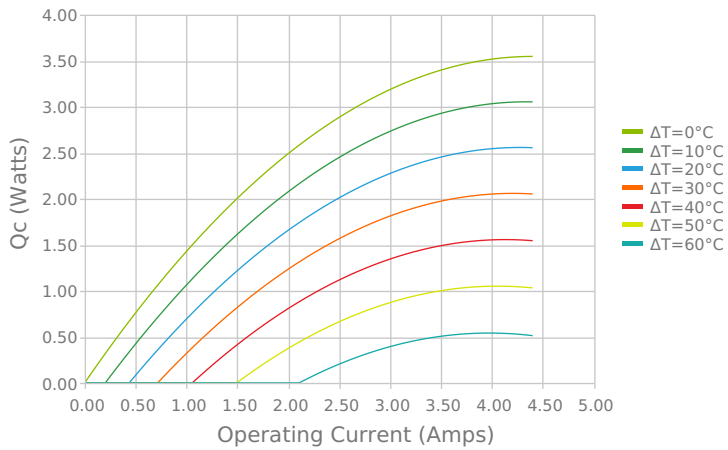


CERAMIC MATERIAL:  $Al_2O_3$   
 SOLDER CONSTRUCTION: 138°C, BiSn

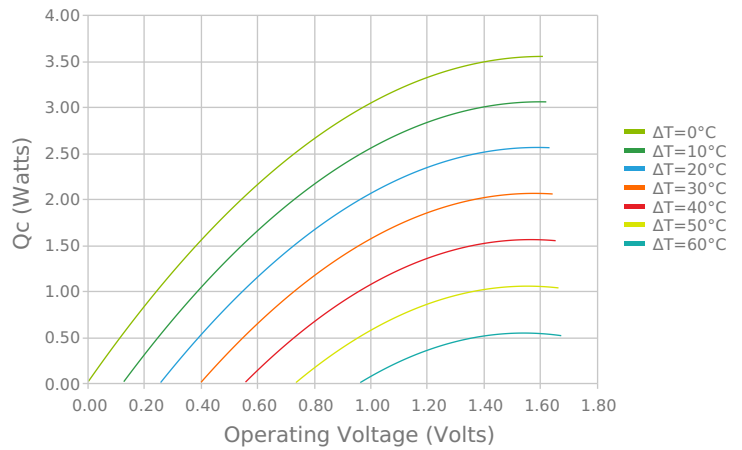
INCHES [MM]

**ELECTRICAL AND THERMAL PERFORMANCE**

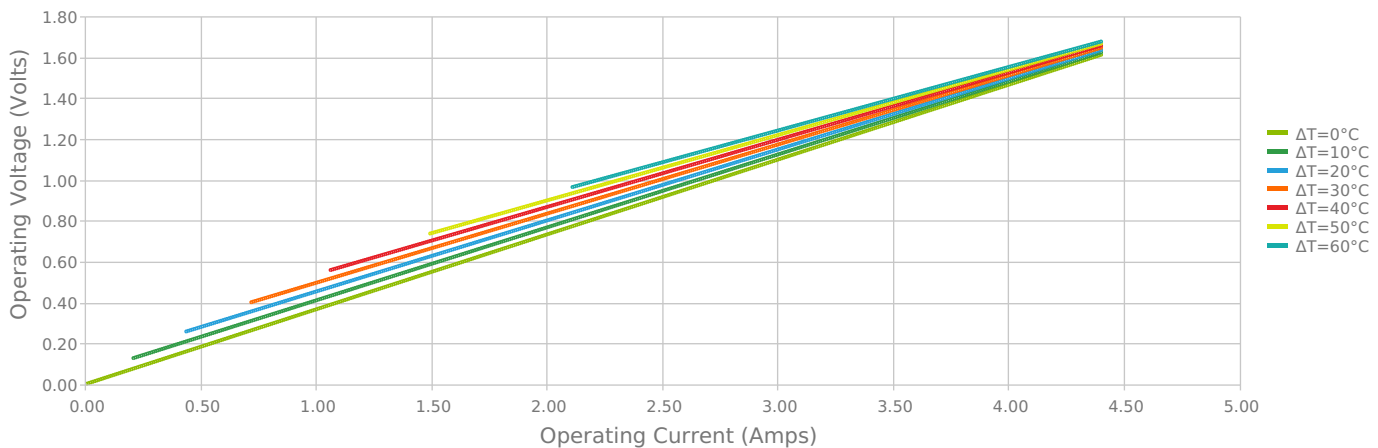
Heat Pumped at Cold Side  
 $T_{hot} = 27\text{ °C}$



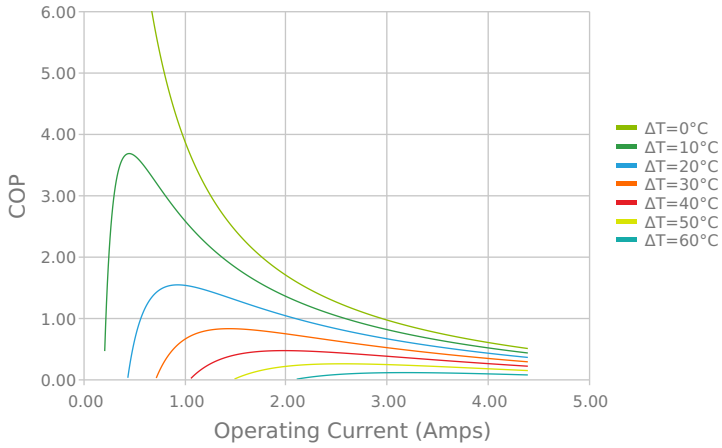
Heat Pumped at Cold Side  
 $T_{hot} = 27\text{ °C}$



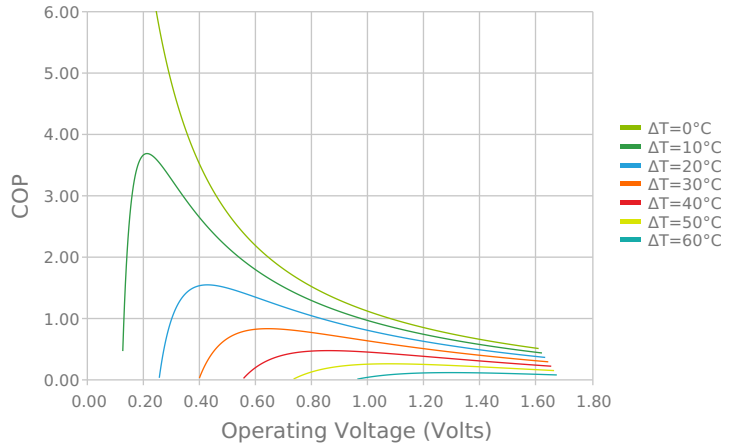
Current vs Voltage (I vs V)  
 $T_{hot} = 27\text{ °C}$



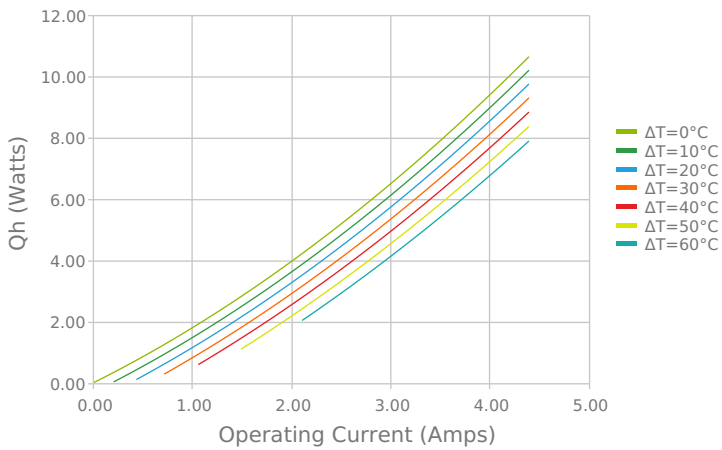
Coefficient of Performance (COP = Qc/Pin)  
 Thot = 27 °C



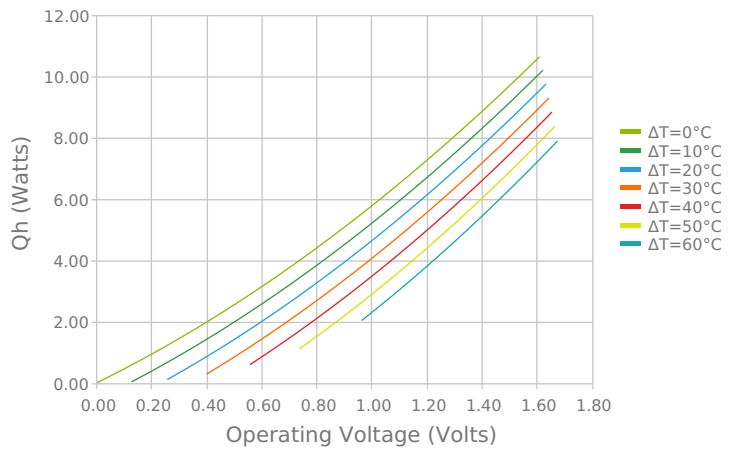
Coefficient of Performance (COP = Qc/Pin)  
 Thot = 27 °C



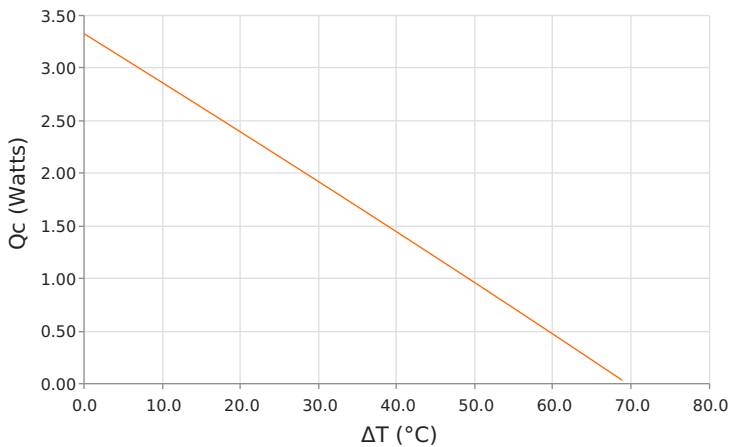
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)  
 Thot = 27 °C



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



Heat Pumped at Cold Side (Qc)  
 Thot = 27 °C | Current = 3.3 Amps



Coefficient of Performance (COP = Qc/Pin)  
 Thot = 27 °C | Current = 3.3 Amps



## SPECIFICATIONS\*

	27.0 °C	35.0 °C	50.0 °C
<b>Hot Side Temperature</b>			
<b>Qcmax (<math>\Delta T = 0</math>)</b>	3.5 Watts	3.7 Watts	3.8 Watts
<b><math>\Delta T_{max}</math> (<math>Q_c = 0</math>)</b>	70.5°C	73.5°C	78.8°C
<b>I<sub>max</sub> (I @ <math>\Delta T_{max}</math>)</b>	3.9 Amps	3.9 Amps	3.8 Amps
<b>V<sub>max</sub> (V @ <math>\Delta T_{max}</math>)</b>	1.5 Volts	1.6 Volts	1.7 Volts
<b>Module Resistance</b>	0.37 Ohms	0.38 Ohms	0.41 Ohms
<b>Max Operating Temperature</b>	80 °C		
<b>Weight</b>	8.0 gram(s)		

\* Specifications reflect thermoelectric coefficients updated March 2020

## FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
L1	4.700 ± 0.025 mm 0.185 ± 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<sub>max</sub> or V<sub>max</sub> when operating module
3. Reference assembly guidelines for recommended installation
4. Solder tinning also available on metallized ceramics

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Date: 05/18/2021