

Annular RH Series Thermoelectric Cooler

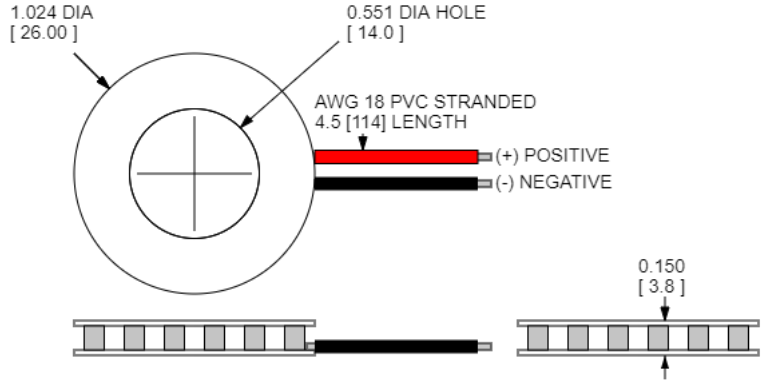
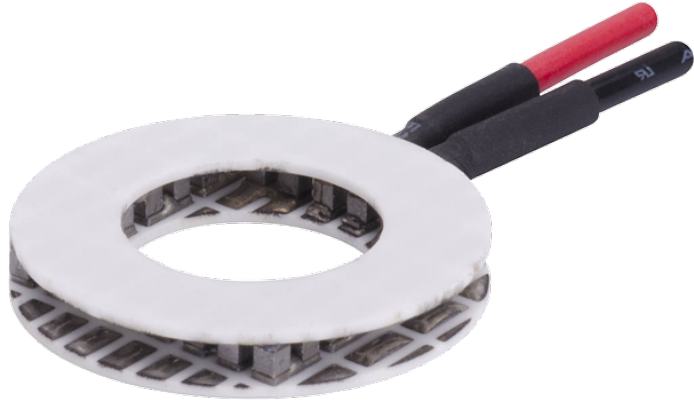
The RH14-14-06-L1-W4.5 is an annular thermoelectric cooler that is round in shape. The hot and cold side ceramics have a circular hole in the center to accommodate light protrusion for optics, mechanical fastening or temperature probe. It has a maximum Qc of 5.4 Watts when $\Delta T = 0$ and a maximum ΔT of 70.5 °C at Qc = 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

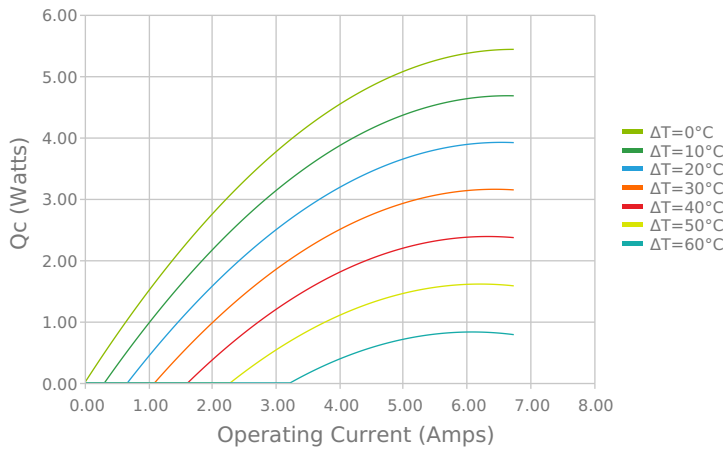


CERAMIC MATERIAL: Al₂O₃
 SOLDER CONSTRUCTION: 138°C, BiSn

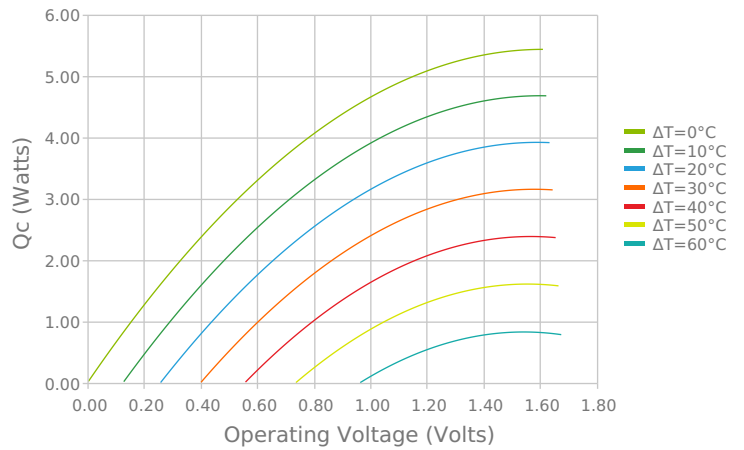
INCHES [MM]

ELECTRICAL AND THERMAL PERFORMANCE

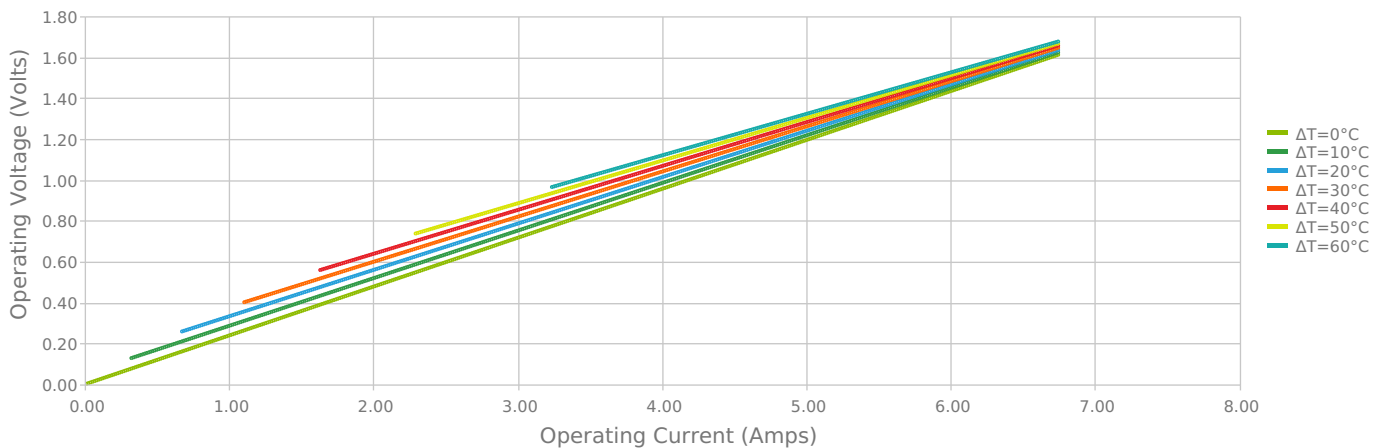
Heat Pumped at Cold Side
 Thot = 27 °C



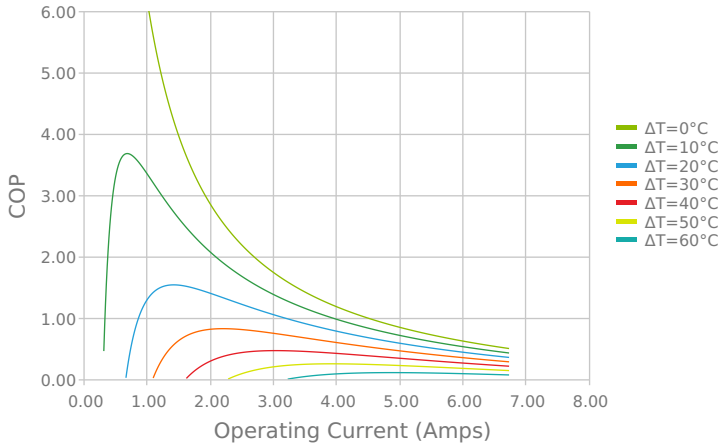
Heat Pumped at Cold Side
 Thot = 27 °C



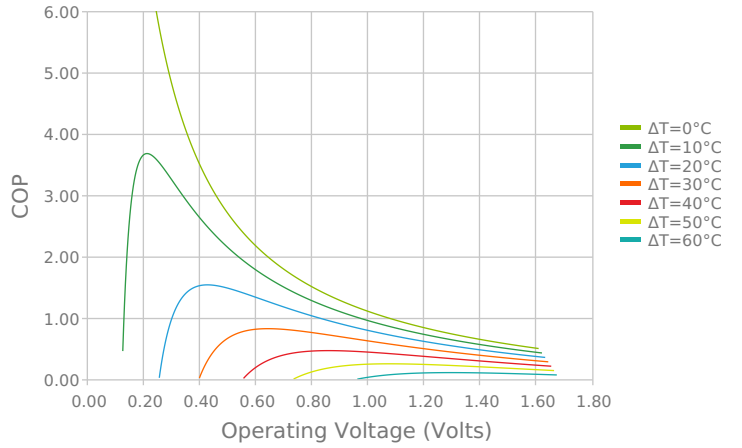
Current vs Voltage (I vs V)
 Thot = 27 °C



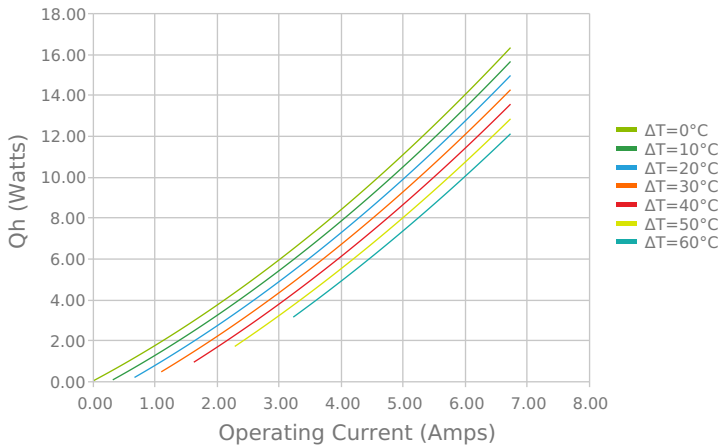
Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C



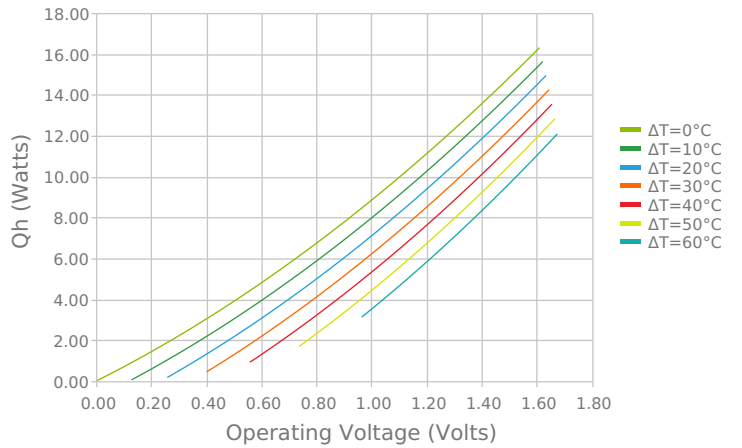
Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C



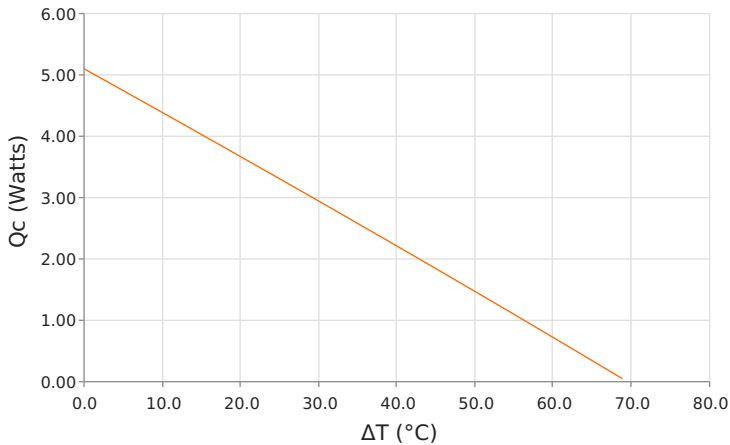
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 27 °C



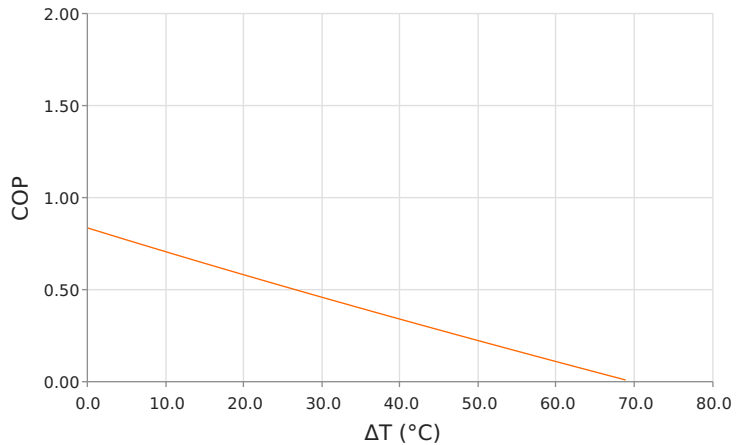
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 27 °C



Heat Pumped at Cold Side (Qc)
 Thot = 27 °C | Current = 5.1 Amps



Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C | Current = 5.1 Amps



SPECIFICATIONS*

| | 27.0 °C | 35.0 °C | 50.0 °C |
|---|-------------|-----------|-----------|
| Hot Side Temperature | | | |
| Qcmax ($\Delta T = 0$) | 5.4 Watts | 5.6 Watts | 5.9 Watts |
| ΔT_{max} ($Q_c = 0$) | 70.5°C | 73.5°C | 78.8°C |
| I_{max} (I @ ΔT_{max}) | 6.0 Amps | 5.9 Amps | 5.9 Amps |
| V_{max} (V @ ΔT_{max}) | 1.5 Volts | 1.6 Volts | 1.7 Volts |
| Module Resistance | 0.24 Ohms | 0.25 Ohms | 0.27 Ohms |
| Max Operating Temperature | 80 °C | | |
| Weight | 7.0 gram(s) | | |

* Specifications reflect thermoelectric coefficients updated March 2020

FINISHING OPTIONS

| Suffix | Thickness | Flatness / Parallelism | Hot Face | Cold Face | Lead Length |
|--------|--------------------------------------|--|----------|-----------|---------------------|
| L1 | 3.810 ±0.025 mm 0.150 ± 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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