

ZT Series Thermoelectric Cooler

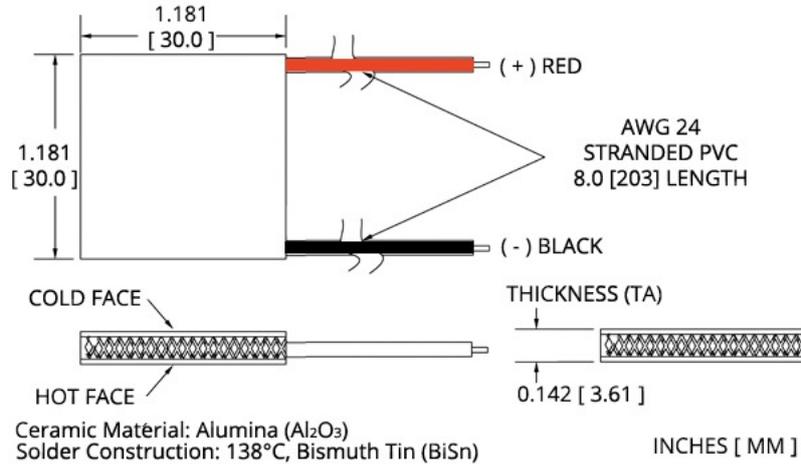
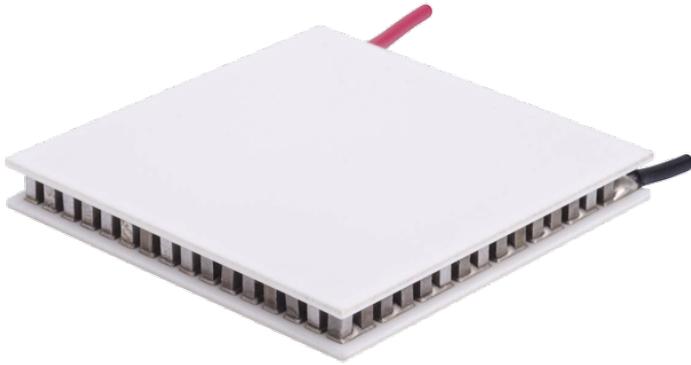
The ZT4-12-F1-3030-TA-RT-W8 is a high performance thermoelectric cooler that achieves a higher temperature differential than standard single stage thermoelectric coolers. It has a maximum Qc of 33.3 Watts when $\Delta T = 0$ and a maximum ΔT of 71.7 °C at Qc = 0.

Features

- High temperature differential
- Precise temperature control
- Reliable solid-state operation
- No sound or vibration
- DC operation
- RoHS-compliant

Applications

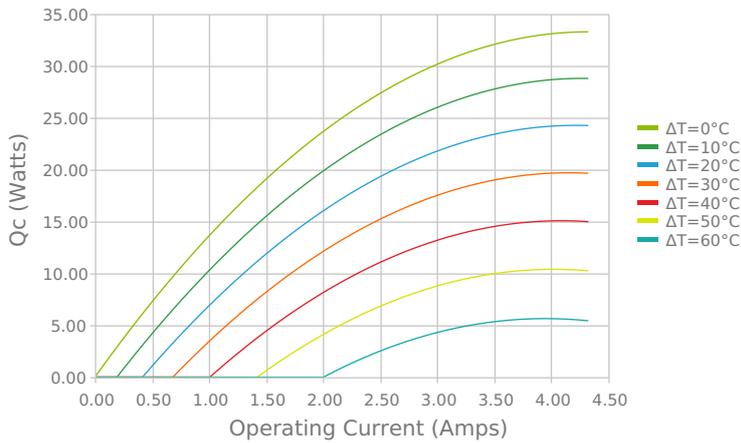
- Peltier Cooling for Refrigerated Centrifuges
- Peltier Cooling for Machine Vision
- Thermoelectric Cooling for CMOS Sensors
- Cooling Solutions for Autonomous Systems
- Peltier Cooling for Digital
- Light Processors



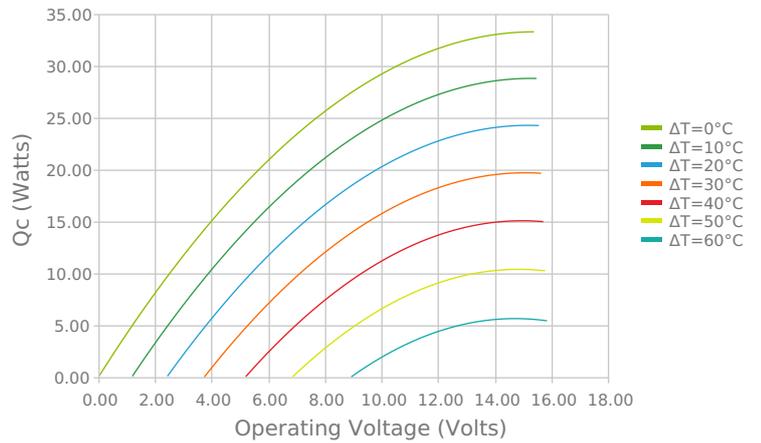
Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

ELECTRICAL AND THERMAL PERFORMANCE

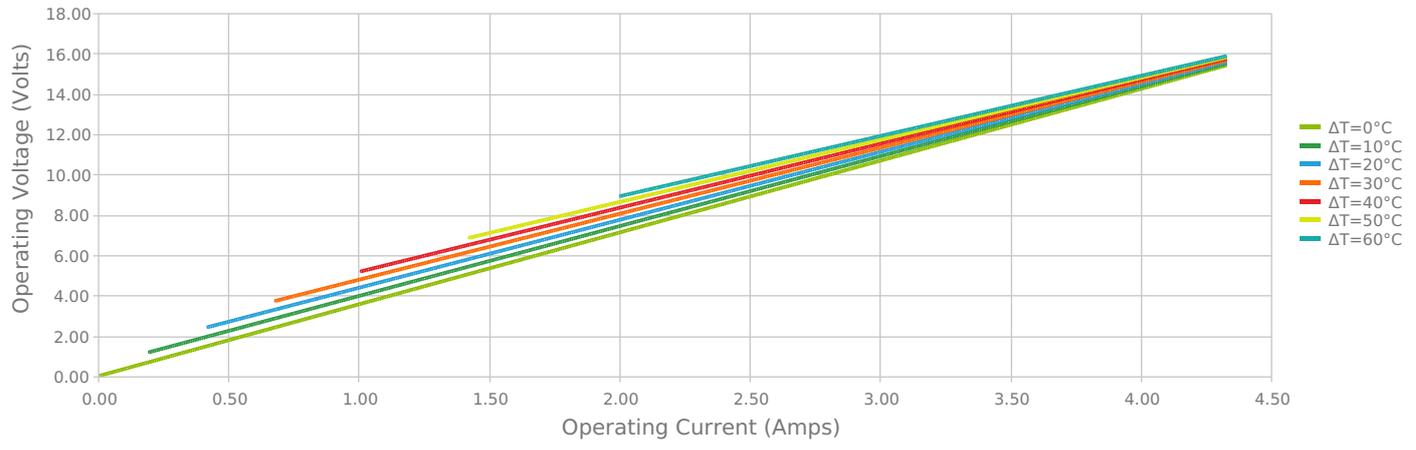
Heat Pumped at Cold Side
Thot = 27 °C



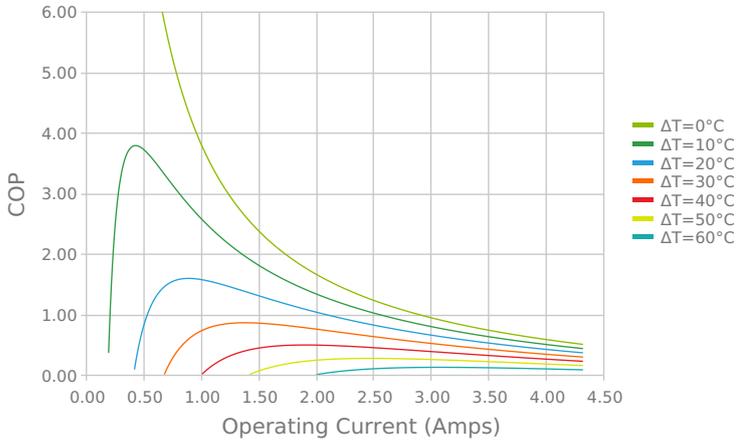
Heat Pumped at Cold Side
Thot = 27 °C



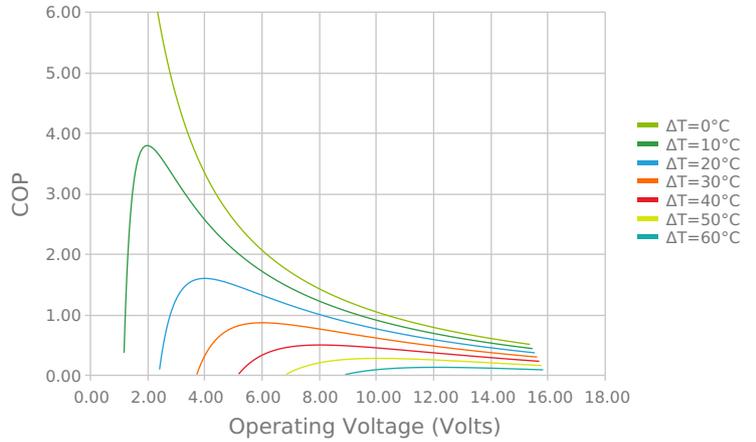
Current vs Voltage (I vs V)
Thot = 27 °C



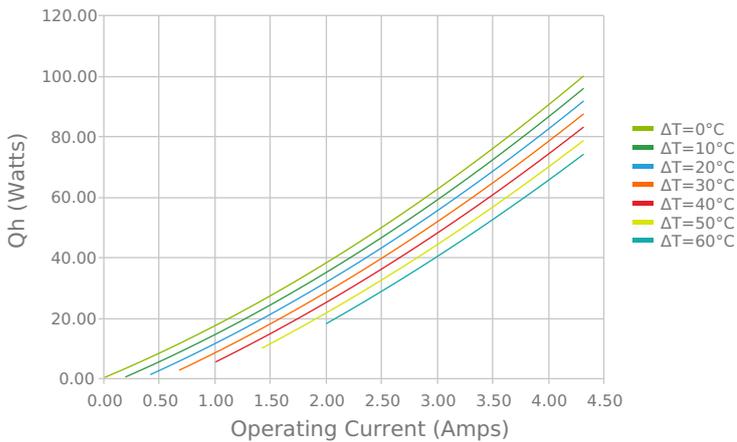
Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C



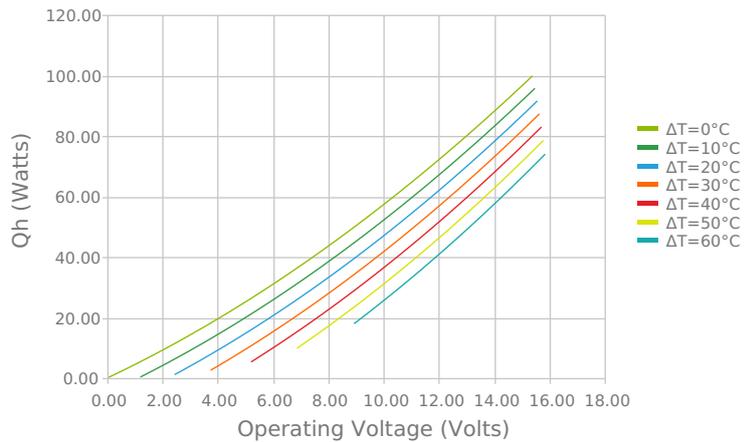
Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C



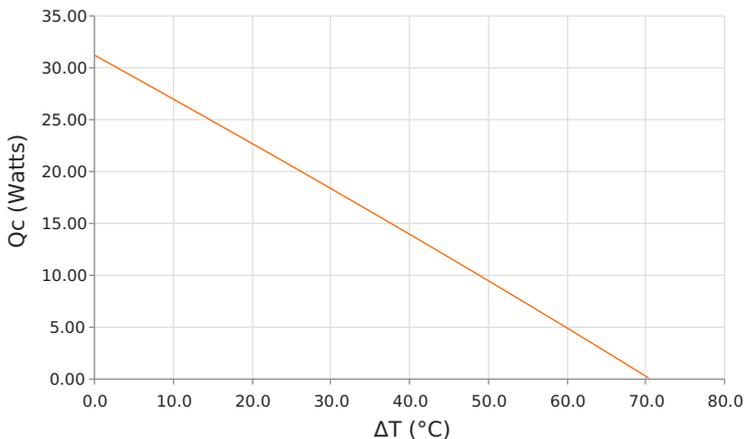
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 27 °C



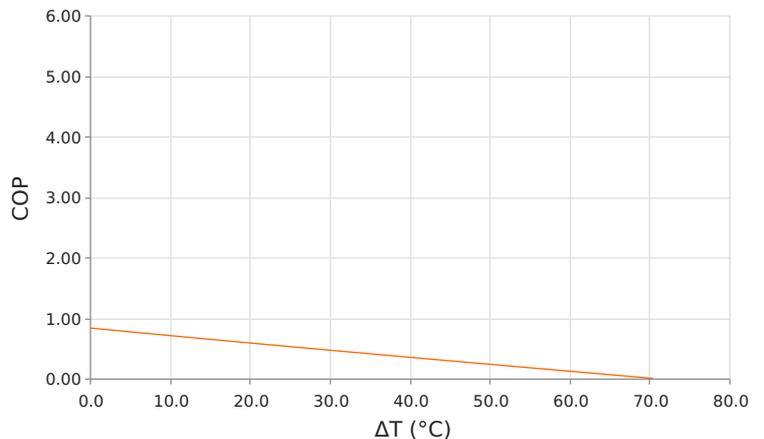
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 27 °C



Heat Pumped at Cold Side (Qc)
 Thot = 27 °C | Current = 3.2 Amps



Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C | Current = 3.2 Amps



SPECIFICATIONS*

	27.0 °C	35.0 °C	50.0 °C
Hot Side Temperature			
Qcmax ($\Delta T = 0$)	33.3 Watts	34.2 Watts	35.8 Watts
ΔT_{max} ($Q_c = 0$)	71.7°C	74.8°C	80.4°C
I_{max} (I @ ΔT_{max})	3.9 Amps	3.8 Amps	3.8 Amps
V_{max} (V @ ΔT_{max})	14.6 Volts	15.1 Volts	16.2 Volts
Module Resistance	3.56 Ohms	3.71 Ohms	4.01 Ohms
Max Operating Temperature	80 °C		
Weight	12.0 gram(s)		

* Specifications reflect thermoelectric coefficients updated March 2020

FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
TA	3.610 ±0.025 mm 0.142 ± 0.001 in	0.025 mm / 0.025 mm 0.001 in / 0.001 in	Lapped	Lapped	203.2 mm 8.00 in

SEALING OPTIONS

Suffix	Sealant	Color	Temp Range	Description
RT	RTV	White	-60 to 204°C	Non-corrosive, silicone adhesive

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

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