

PolarTEC™ PT Series Thermoelectric Cooler

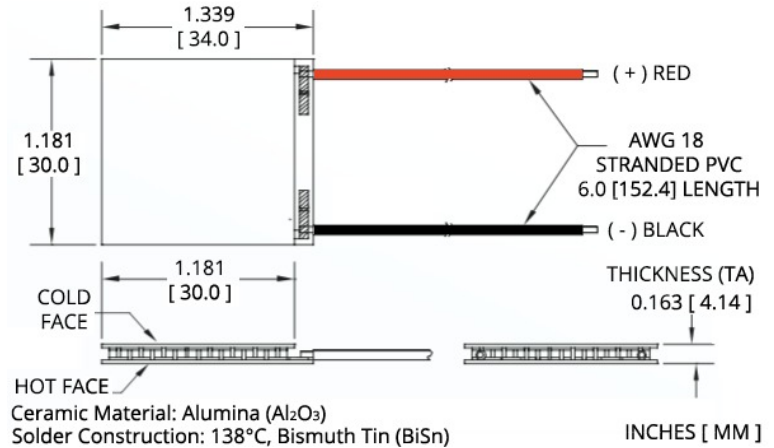
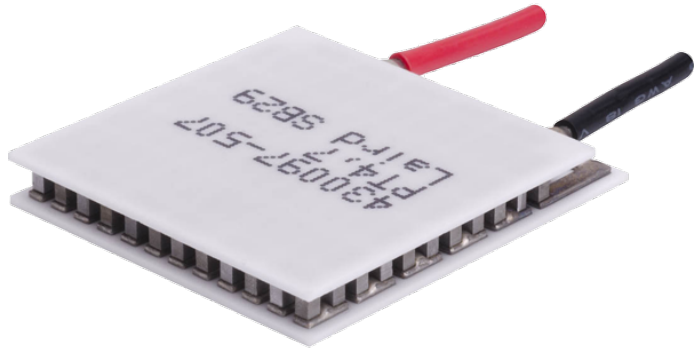
The PT4-7-F2-3030-TA-W6 is a porch-style thermoelectric cooler. The hot side ceramic has an extended edge, which allows for a strong lead attachment to accommodate the wiring of multiple thermoelectric coolers into an array. It has a maximum Q_c of 17.8 Watts when $\Delta T = 0$ and a maximum ΔT of 70.5 °C at $Q_c = 0$.

Features

- Strong lead attachment
- Precise temperature control
- Reliable solid-state operation
- No sound or vibration
- DC operation
- RoHS-compliant

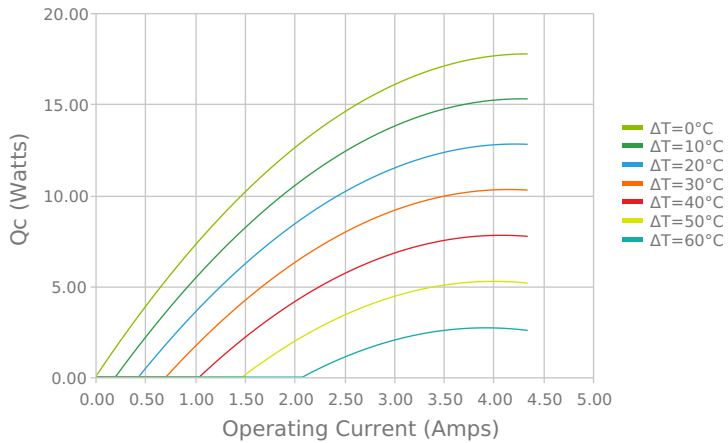
Applications

- Cooling for Mobile Base Stations and Cell Towers
- Thermal Management Solutions for Beverage Cooling
- Cooling for Centrifuges
- Energy Storage Systems

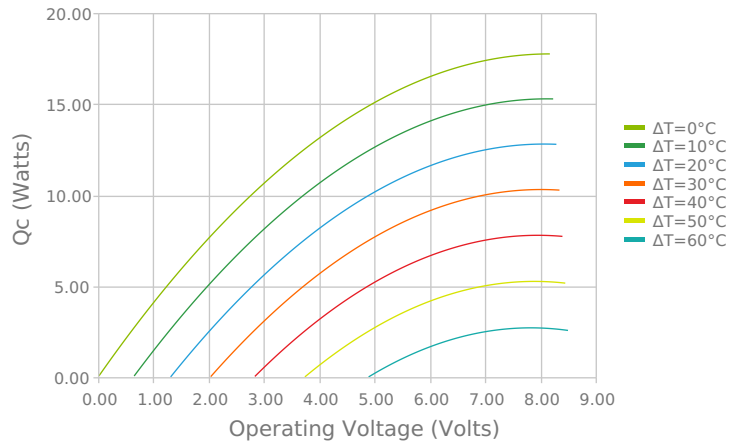


ELECTRICAL AND THERMAL PERFORMANCE

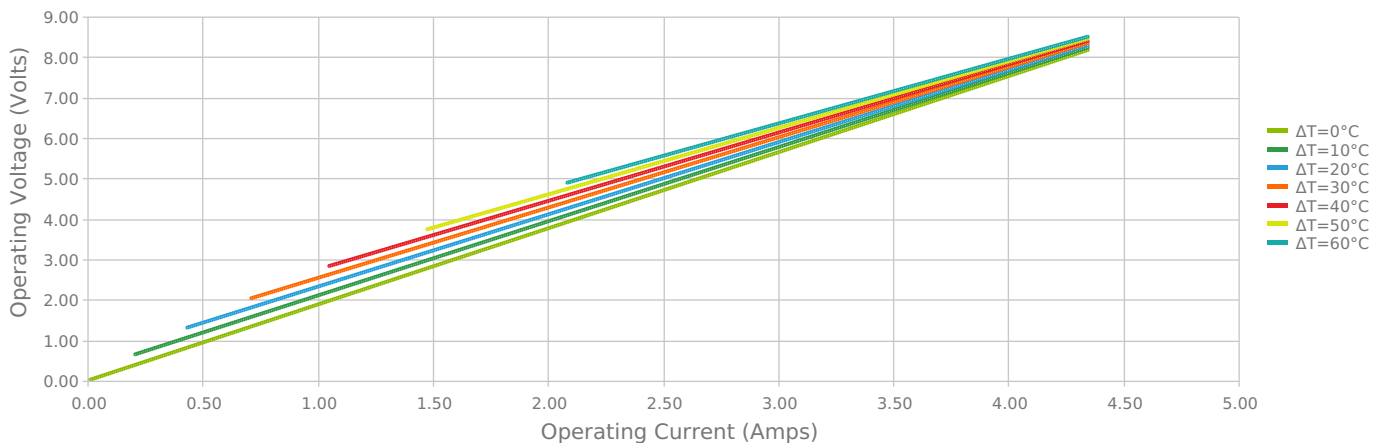
Heat Pumped at Cold Side
 $T_{hot} = 27\text{ °C}$



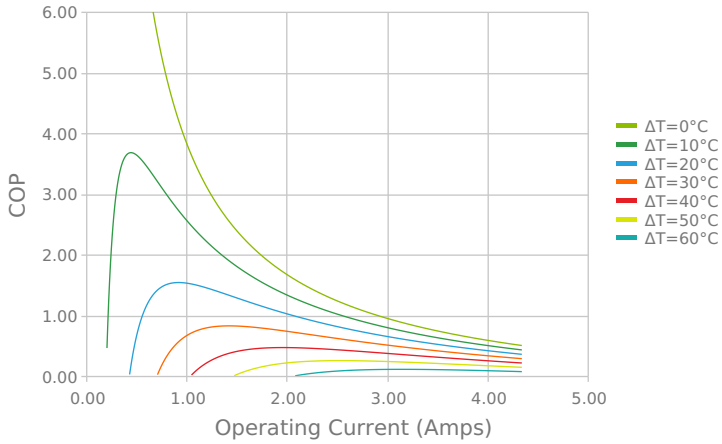
Heat Pumped at Cold Side
 $T_{hot} = 27\text{ °C}$



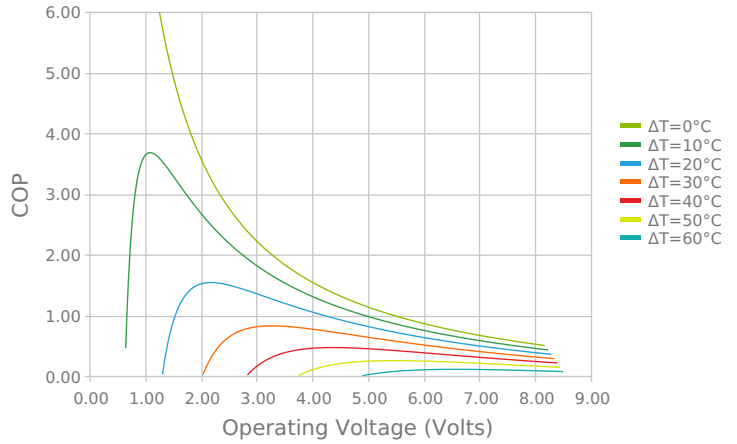
Current vs Voltage (I vs V)
 $T_{hot} = 27\text{ °C}$



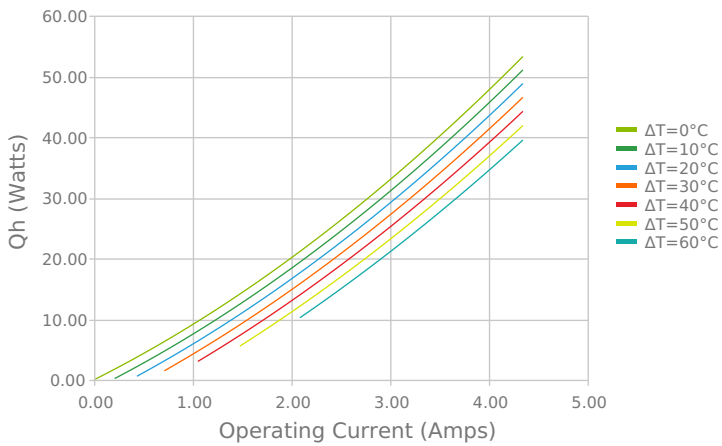
Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C



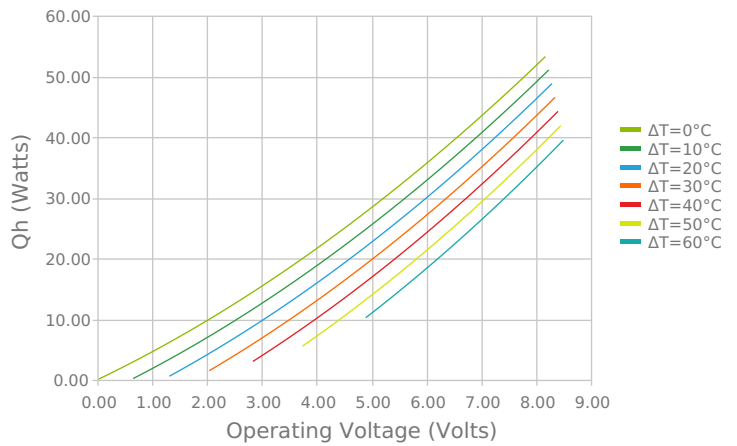
Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C



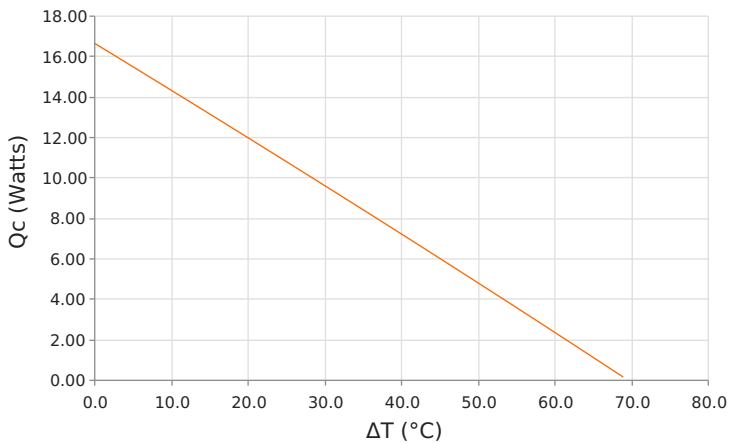
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 27 °C



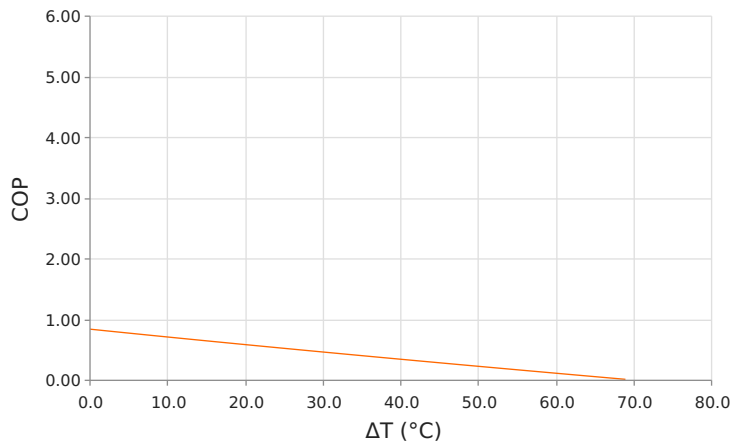
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 27 °C



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*

Hot Side Temperature	27.0 °C	35.0 °C	50.0 °C
Q_{cmax} (ΔT = 0)	17.8 Watts	18.3 Watts	19.2 Watts
ΔT_{max} (Q_c = 0)	70.5°C	73.5°C	78.8°C
I_{max} (I @ ΔT_{max})	3.8 Amps	3.8 Amps	3.8 Amps
V_{max} (V @ ΔT_{max})	7.8 Volts	8.1 Volts	8.6 Volts
Module Resistance	1.88 Ohms	1.96 Ohms	2.11 Ohms
Max Operating Temperature	80 °C		
Weight	13.0 gram(s)		

* Specifications reflect thermoelectric coefficients updated March 2020

FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
TA	4.191 ±0.025 mm 0.165 ± 0.001 in	0.025 mm / 0.025 mm 0.001 in / 0.001 in	Lapped	Lapped	152.4 mm 6.00 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

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