PowerCycling PC Series PC12-139-F1-3550-TA-W6
MFG Part Number: 108139120002

PowerCycling PC Series Thermoelectric Cooler

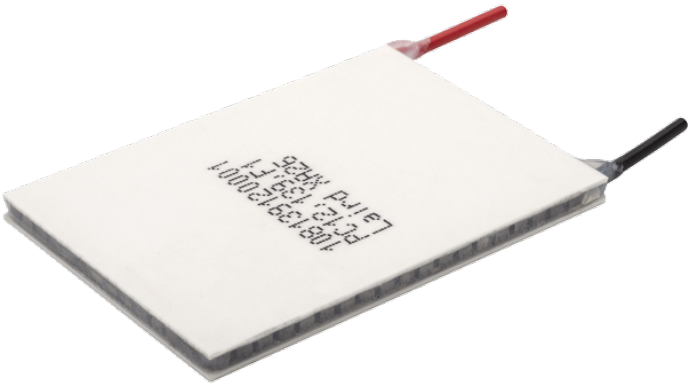
The PC12-139-F1-3550-TA-W6 is a thermoelectric cooler designed for thermal cycling between multiple temperature set points and is ideal for applications in healthcare among others, where fast temperature changes are required. The thermoelectric module is specially constructed to reduce the amount of stress induced on the thermoelectric elements during operation. It has a maximum Qc of 108.9 Watts when ΔT = 0 and a maximum ΔT of 70.5 °C at Qc = 0.

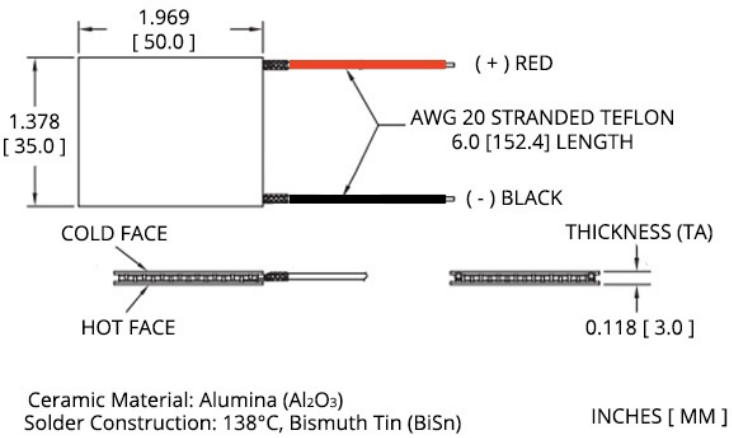
Features

- High thermal cycling capability
- Precise temperature control
- Reliable solid-state operation
- No sound or vibration
- RoHS-compliant

Applications

- Thermoelectric Modules Accelerate PCR Thermal Cycling
- DNA Amplification (PCR)

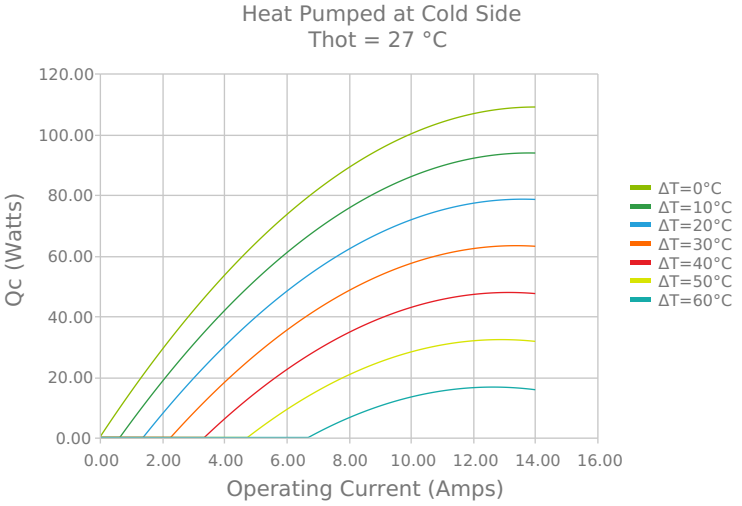


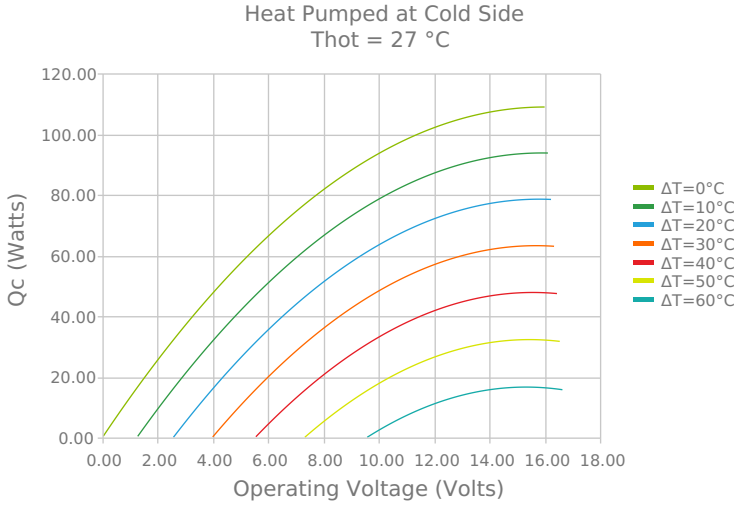


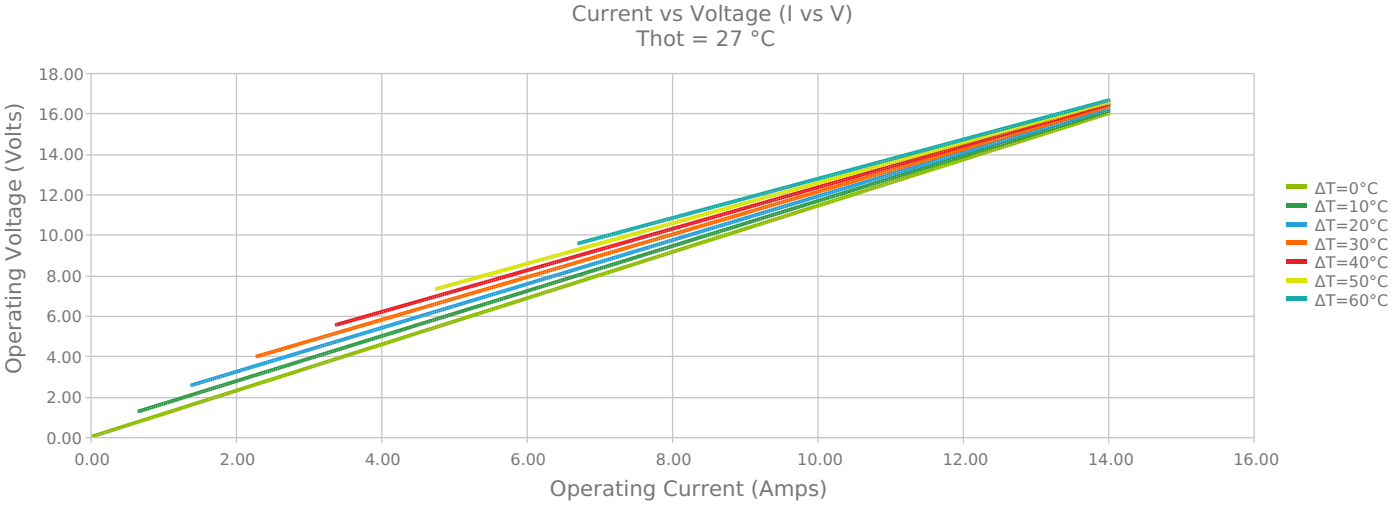
Ceramic Material: Alumina (Al_2O_3)
Solder Construction: 138°C, Bismuth Tin (BiSn)

INCHES [MM]

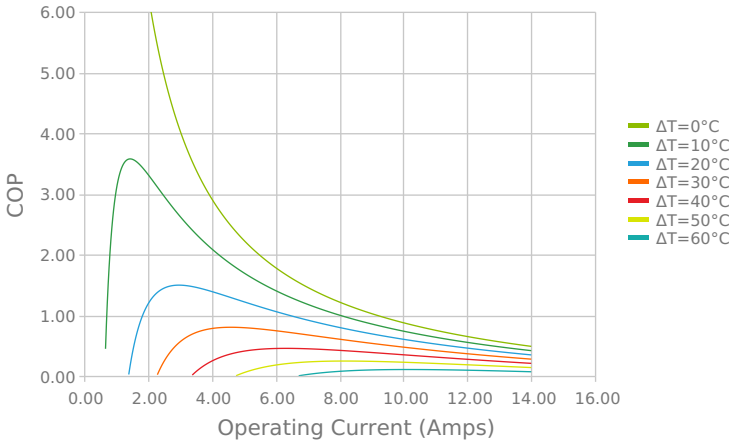
ELECTRICAL AND THERMAL PERFORMANCE







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



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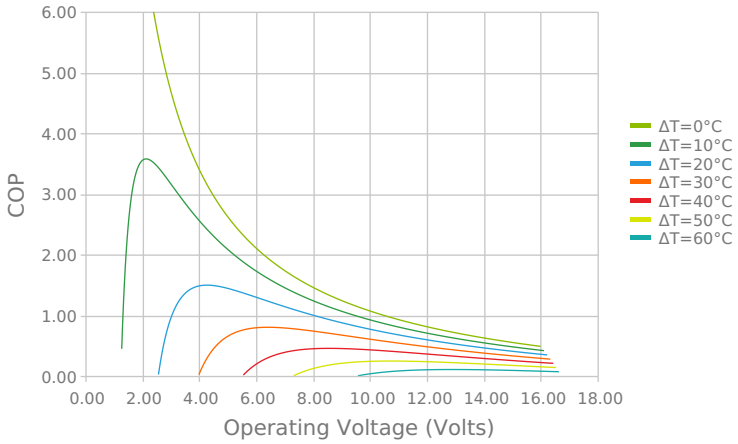
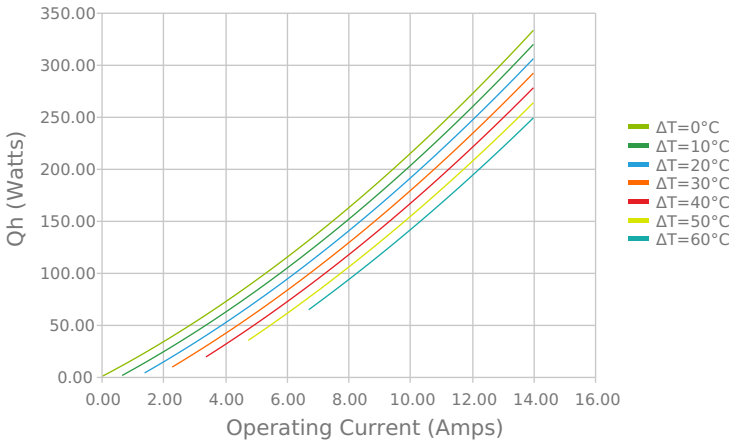


Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 27 °C



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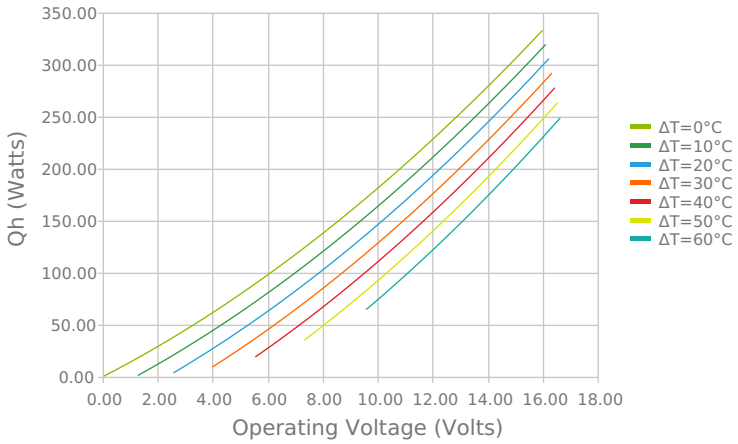
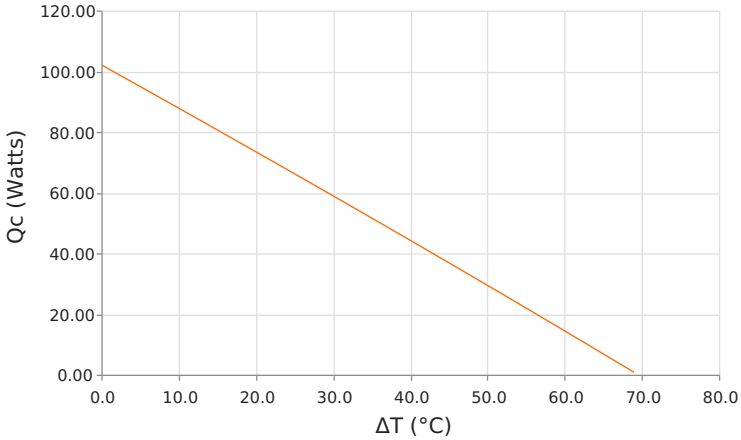
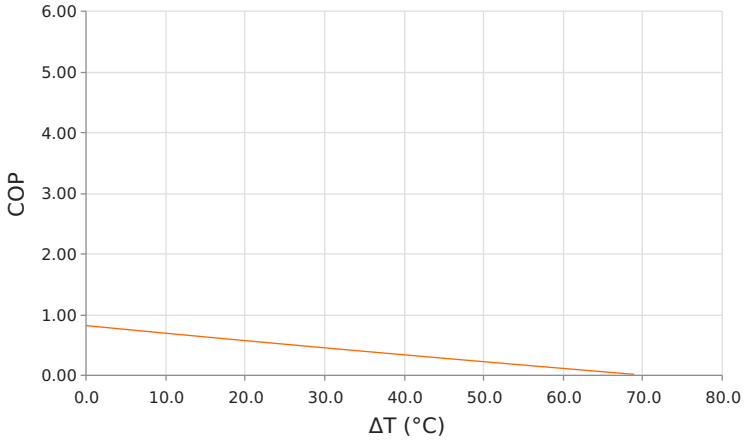


Heat Pumped at Cold Side (Qc)
Thot = 27 °C | Current = 10.5 Amps



Coefficient of Performance (COP = Qc/Pin)
Thot = 27 °C | Current = 10.5 Amps



SPECIFICATIONS*

Hot Side Temperature	27.0 °C	35.0 °C	50.0 °C
Qcmax (ΔT = 0)	108.9 Watts	112.2 Watts	118.1 Watts
ΔTmax (Qc = 0)	70.5°C	73.5°C	78.8°C
Imax (I @ ΔTmax)	12.4 Amps	12.3 Amps	12.2 Amps
Vmax (V @ ΔTmax)	15.2 Volts	15.8 Volts	16.9 Volts
Module Resistance	1.14 Ohms	1.19 Ohms	1.28 Ohms
Max Operating Temperature	80 °C		
Weight	21.0 gram(s)		

* Specifications reflect thermoelectric coefficients updated March 2020

FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
TA	3.000 ±0.025 mm 0.118 ± 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: 120°C
2. Do not exceed Imax or Vmax when operating module
3. Reference assembly guidelines for recommended installation
4. Solder tinning also available on metallized ceramics

Date: 04/24/2020