

**PowerCycling PC Series Thermoelectric Cooler**

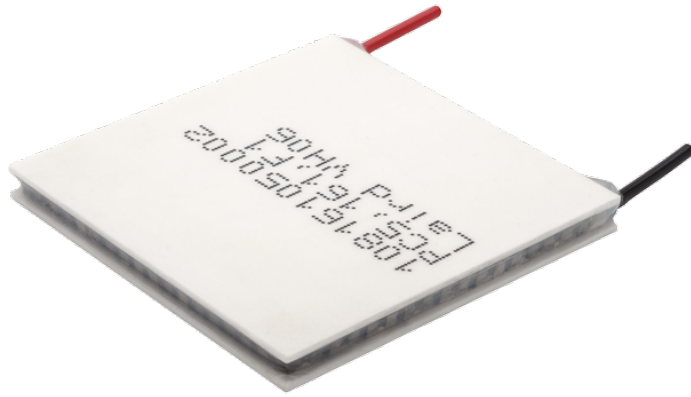
**Note: This product is not recommended for new designs.**

This product series has been replaced with the PowerCycling PCX Series.

The recommended replacement is:

MFG Part Number: 387005675

Description: PCX5-16-F1-4040-TA-RT-W6

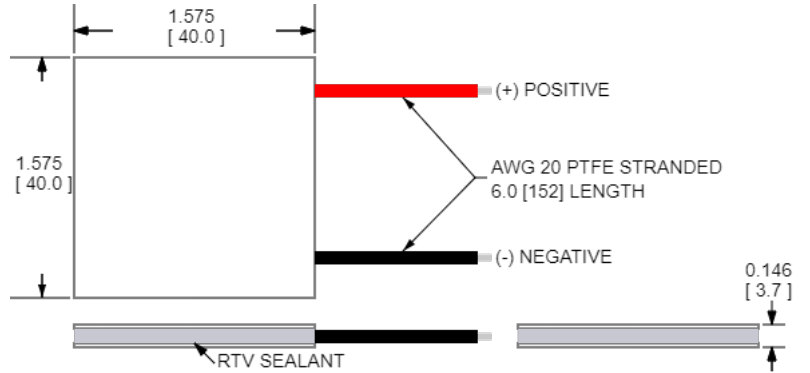


**Features**

- 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: Al<sub>2</sub>O<sub>3</sub>

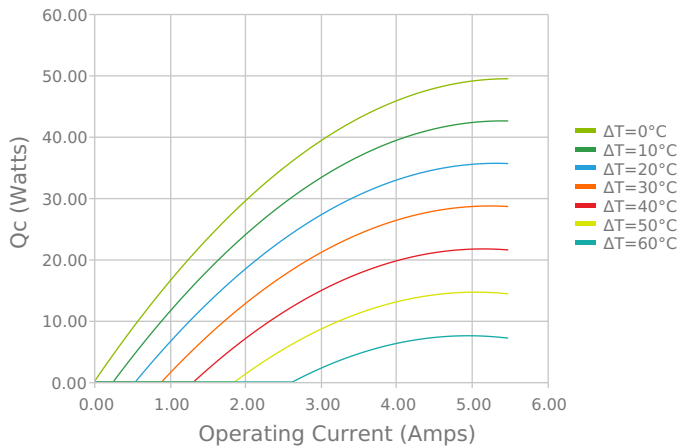
SOLDER CONSTRUCTION: 232°C, SbSn

INCHES [MM]

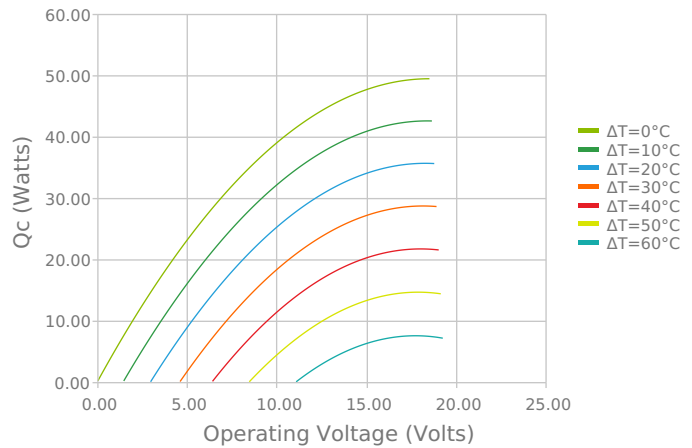
Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

**ELECTRICAL AND THERMAL PERFORMANCE**

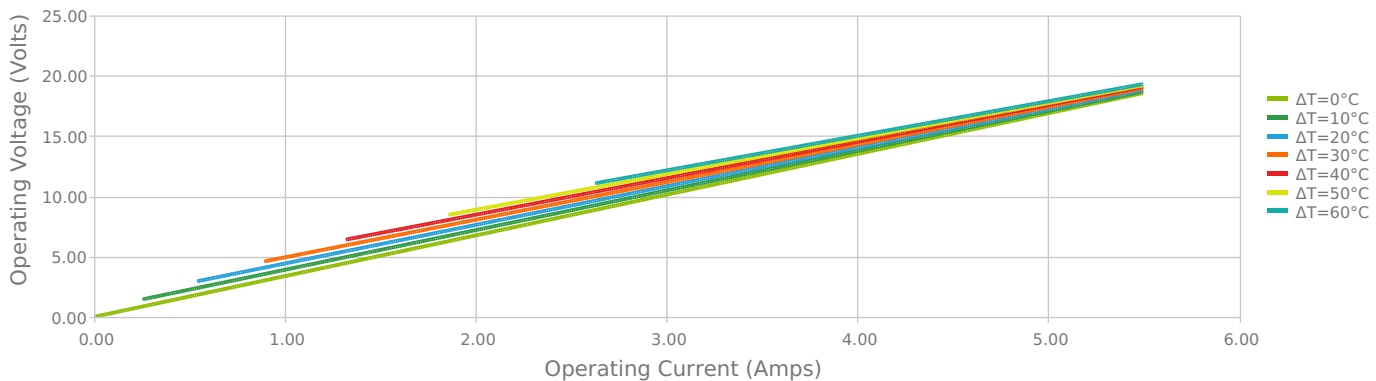
Heat Pumped at Cold Side  
Thot = 27 °C



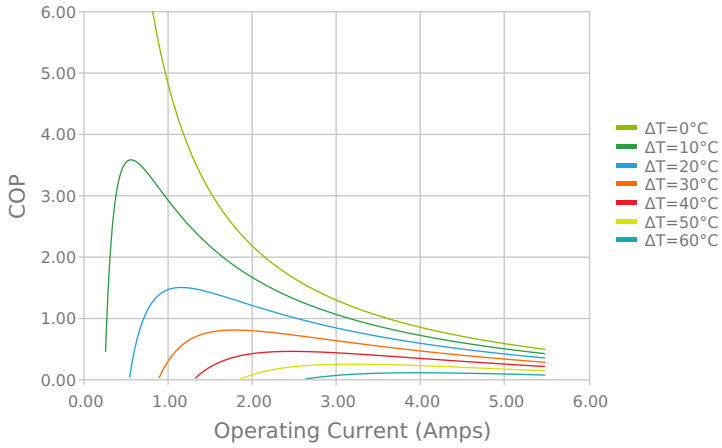
Heat Pumped at Cold Side  
Thot = 27 °C



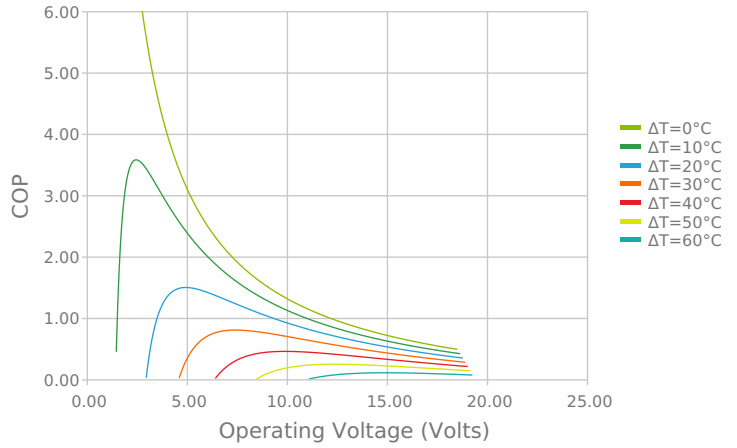
Current vs Voltage (I vs V)  
Thot = 27 °C



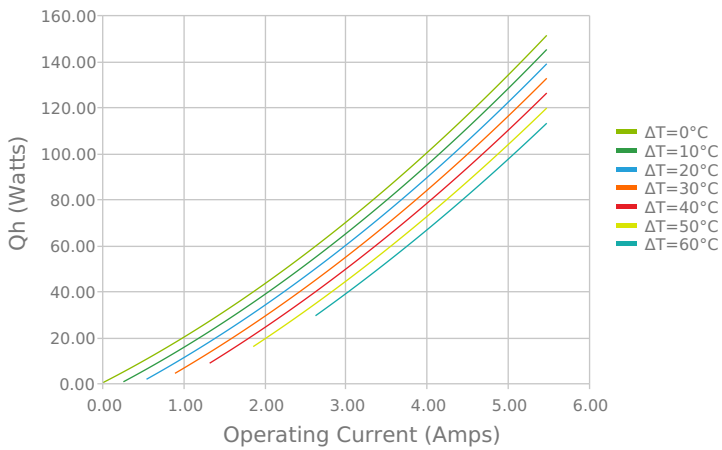
Coefficient of Performance (COP = Qc/Pin)  
Thot = 27 °C



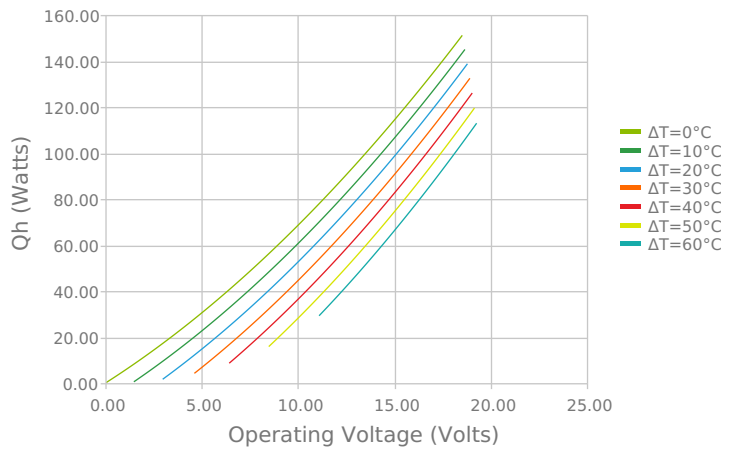
Coefficient of Performance (COP = Qc/Pin)  
Thot = 27 °C



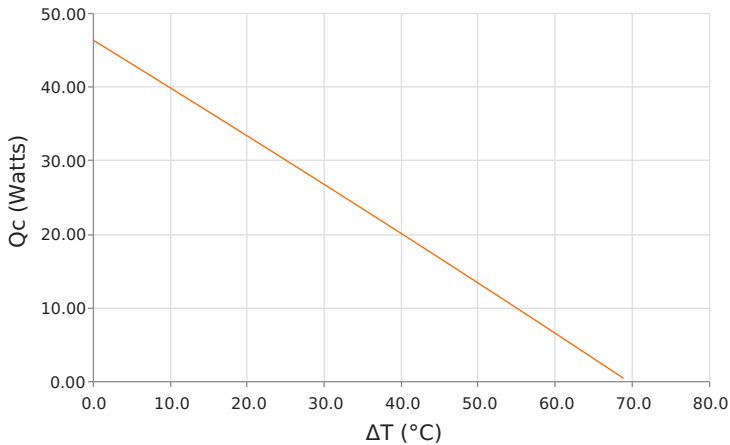
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)  
Thot = 27 °C



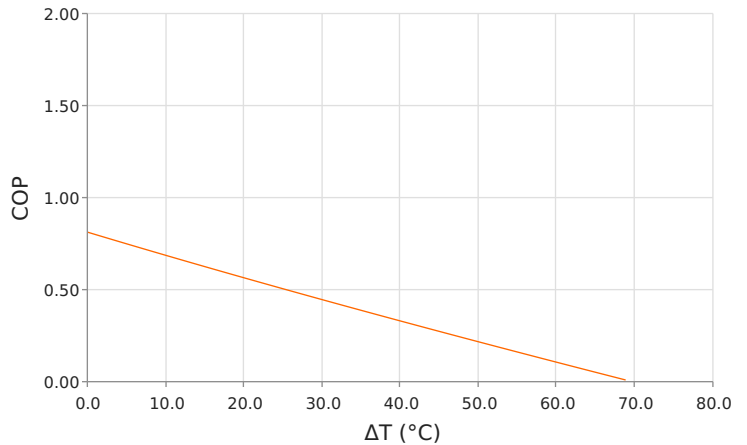
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)  
Thot = 27 °C



Heat Pumped at Cold Side (Qc)  
Thot = 27 °C | Current = 4.1 Amps



Coefficient of Performance (COP = Qc/Pin)  
Thot = 27 °C | Current = 4.1 Amps



## SPECIFICATIONS\*

Hot Side Temperature	27.0 °C	50.0 °C	80.0 °C
<b>Qcmax (<math>\Delta T = 0</math>)</b>	49.4 Watts	53.6 Watts	58.1 Watts
<b><math>\Delta T_{max}</math> (<math>Q_c = 0</math>)</b>	70.5°C	78.8°C	88.8°C
<b>I<sub>max</sub> (I @ <math>\Delta T_{max}</math>)</b>	4.8 Amps	4.8 Amps	4.7 Amps
<b>V<sub>max</sub> (V @ <math>\Delta T_{max}</math>)</b>	17.6 Volts	19.5 Volts	22.0 Volts
<b>Module Resistance</b>	3.38 Ohms	3.78 Ohms	4.31 Ohms
<b>Max Operating Temperature</b>	120 °C		
<b>Weight</b>	20.0 gram(s)		

\* Specifications reflect thermoelectric coefficients updated March 2020

## FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
TA	3.700 ±0.025 mm 0.146 ± 0.0010 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
RT	RTV	Translucent or White	-60 to 204°C	Non-corrosive, silicone adhesive

## NOTES

1. Max operating temperature: 120°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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