

## PowerCycling PC Series Thermoelectric Cooler

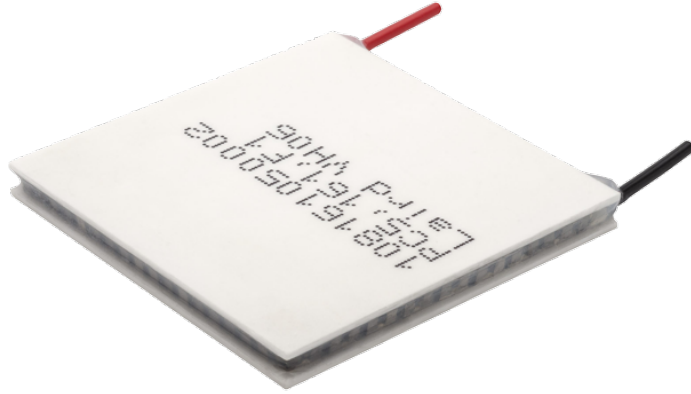
**Note: This product is not recommended for new designs.**

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

The recommended replacement is:

MFG Part Number: 387005676

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

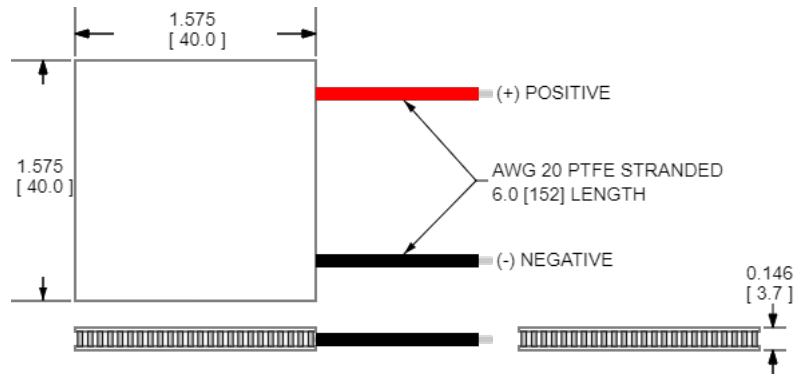


## Features

- 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)



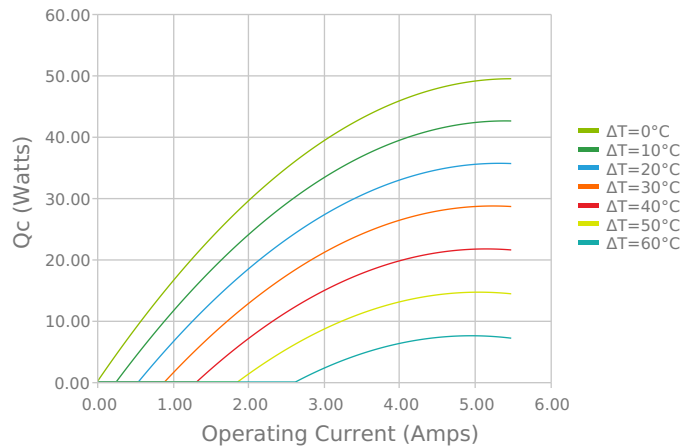
CERAMIC MATERIAL:  $\text{Al}_2\text{O}_3$

SOLDER CONSTRUCTION: 232°C, SbSn

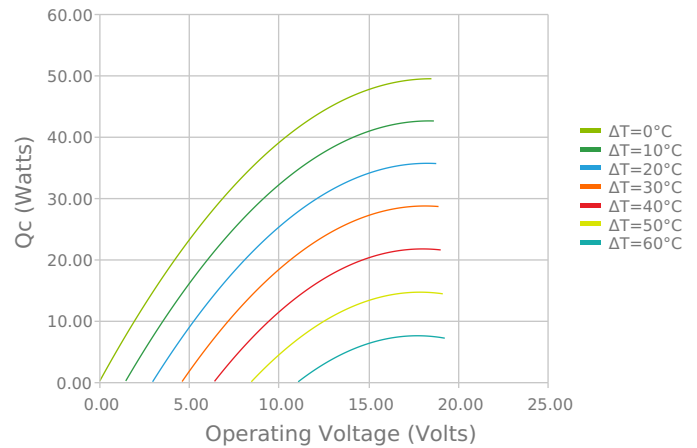
INCHES [MM]

## ELECTRICAL AND THERMAL PERFORMANCE

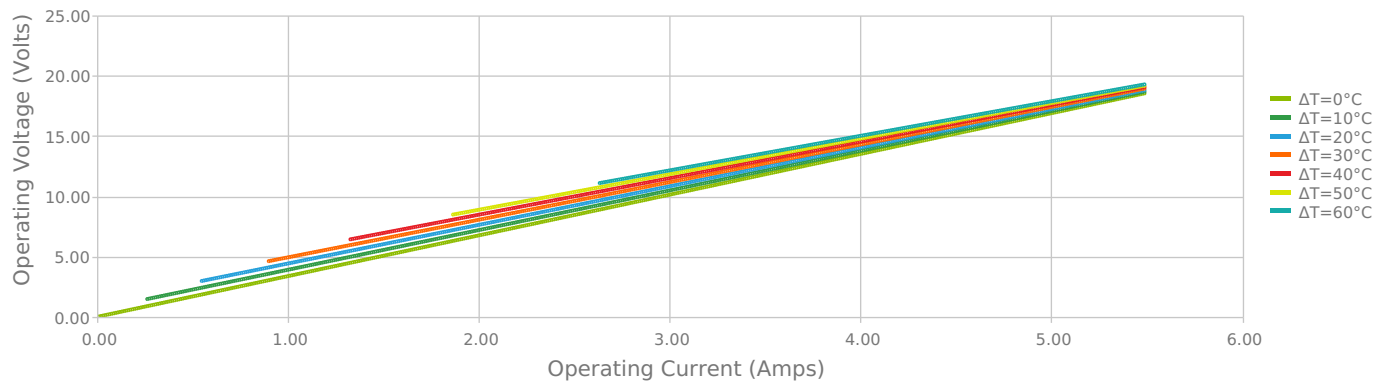
Heat Pumped at Cold Side  
 $T_{\text{hot}} = 27^\circ\text{C}$



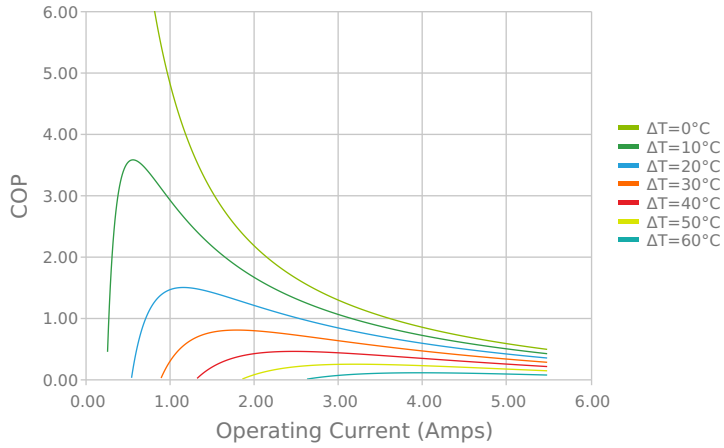
Heat Pumped at Cold Side  
 $T_{\text{hot}} = 27^\circ\text{C}$



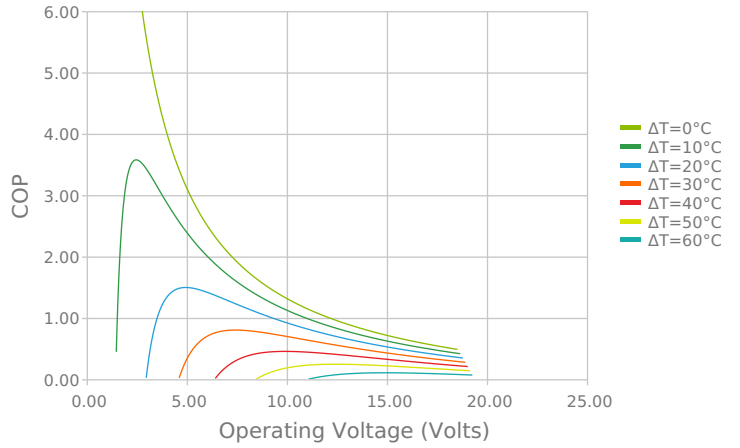
Current vs Voltage (I vs V)  
 $T_{\text{hot}} = 27^\circ\text{C}$



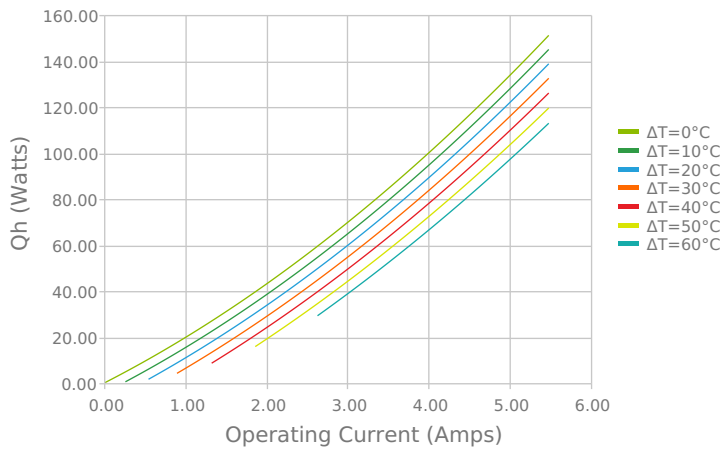
Coefficient of Performance (COP = Qc/Pin)  
Thot = 27 °C



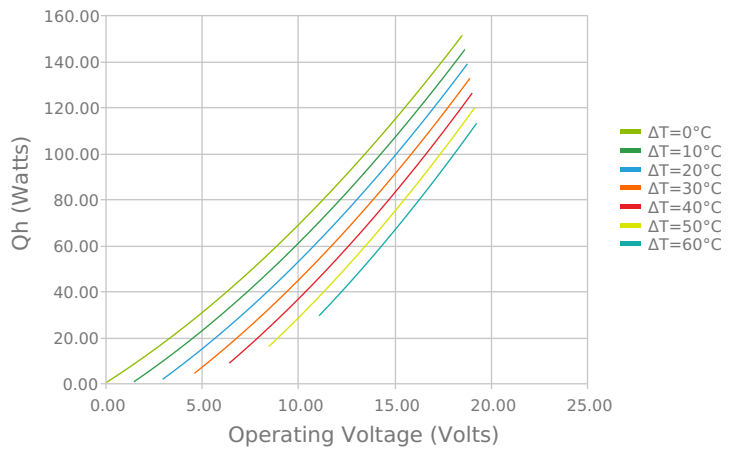
Coefficient of Performance (COP = Qc/Pin)  
Thot = 27 °C



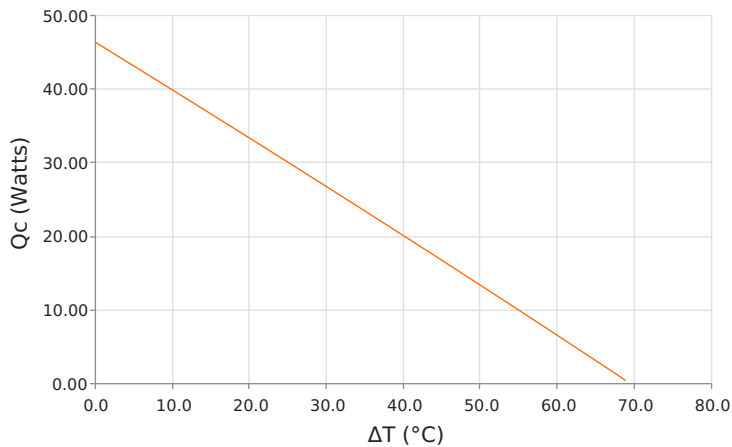
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)  
Thot = 27 °C



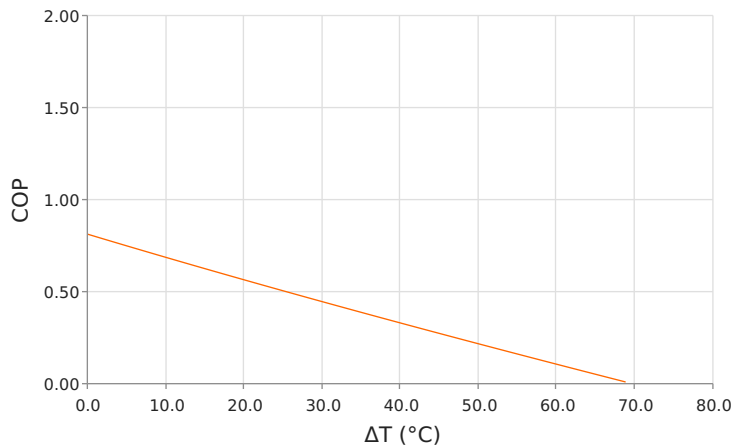
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)  
Thot = 27 °C



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



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



## SPECIFICATIONS\*

### Hot Side Temperature

### Qcmax ( $\Delta T = 0$ )

### $\Delta T_{max}$ ( $Q_c = 0$ )

### I<sub>max</sub> (I @ $\Delta T_{max}$ )

### V<sub>max</sub> (V @ $\Delta T_{max}$ )

### Module Resistance

### Max Operating Temperature

### Weight

	27.0 °C	50.0 °C	80.0 °C
Qcmax ( $\Delta T = 0$ )	49.4 Watts	53.6 Watts	58.1 Watts
$\Delta T_{max}$ ( $Q_c = 0$ )	70.5°C	78.8°C	88.8°C
I <sub>max</sub> (I @ $\Delta T_{max}$ )	4.8 Amps	4.8 Amps	4.7 Amps
V <sub>max</sub> (V @ $\Delta T_{max}$ )	17.6 Volts	19.5 Volts	22.0 Volts
Module Resistance	3.38 Ohms	3.78 Ohms	4.31 Ohms
Max Operating Temperature	120 °C		
Weight	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
	None			No sealing specified

## 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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