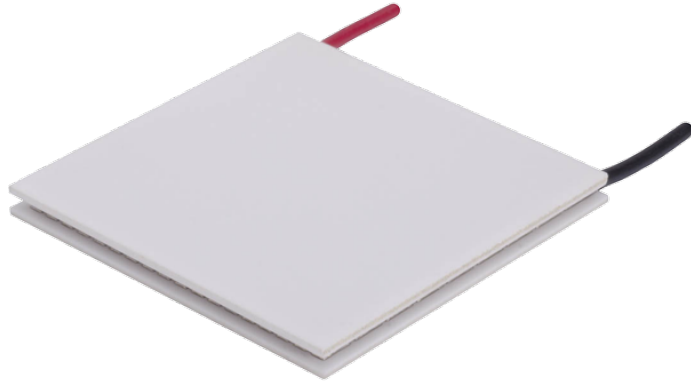


**ZT Series Thermoelectric Cooler**

**Note: This product is not recommended for new designs.**  
 This product series has been replaced with the HiTemp ETX Series.  
 The recommended replacement is:  
 MFG Part Number: 387004951  
 Description: ETX7-16-F1-4040-TA-RT-W6

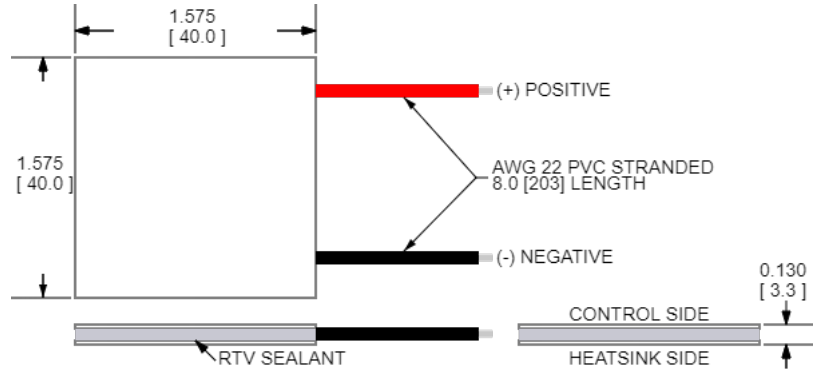


**Features**

- 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

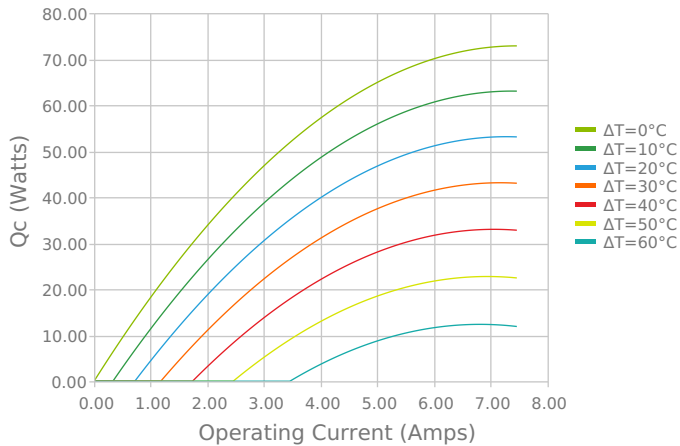


CERAMIC MATERIAL: Al<sub>2</sub>O<sub>3</sub>  
 SOLDER CONSTRUCTION: 138°C, BiSn  
 INCHES [MM]  
 Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

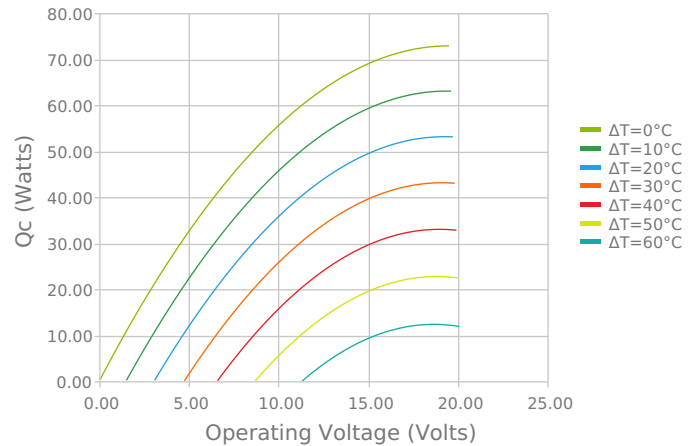
**ELECTRICAL AND THERMAL PERFORMANCE**

For maximum performance, be sure to orient the CONTROL side of the TEC against the application to be managed and the HEATSINK side against the heat sink or other heat rejection method. The CONTROL side is always opposite the side with lead attachments. Lead attachment is a passive heat loss and less impactful if located on the side that attaches to the heat exchanger.

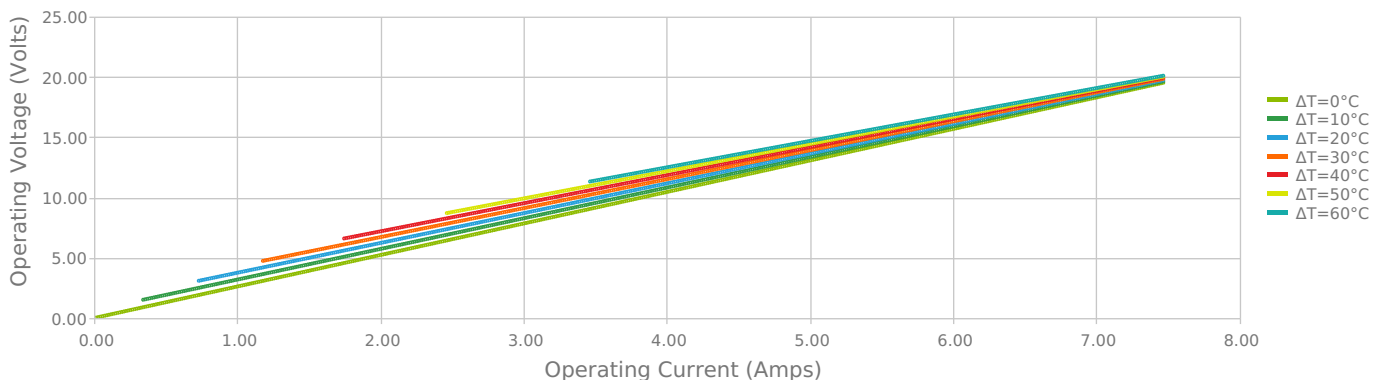
Heat Pumped at Cold Side  
 Thot = 27 °C



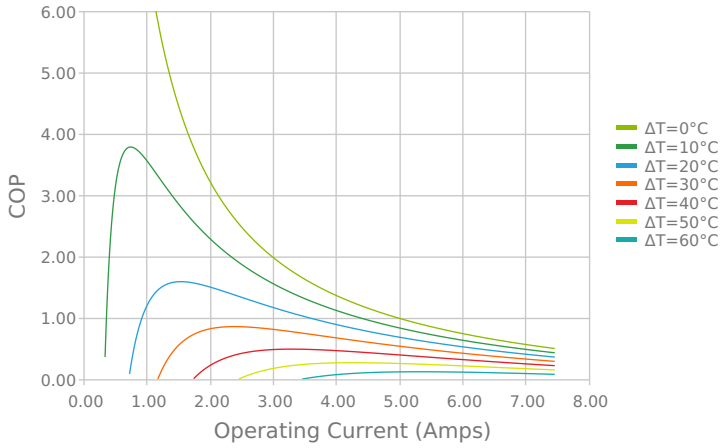
Heat Pumped at Cold Side  
 Thot = 27 °C



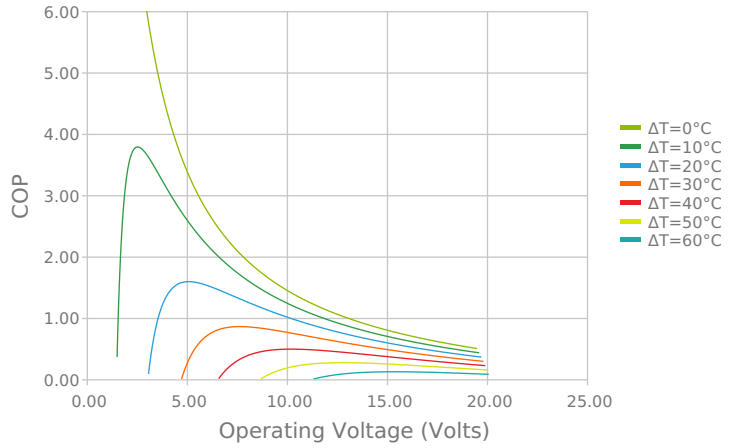
Current vs Voltage (I vs V)  
 Thot = 27 °C



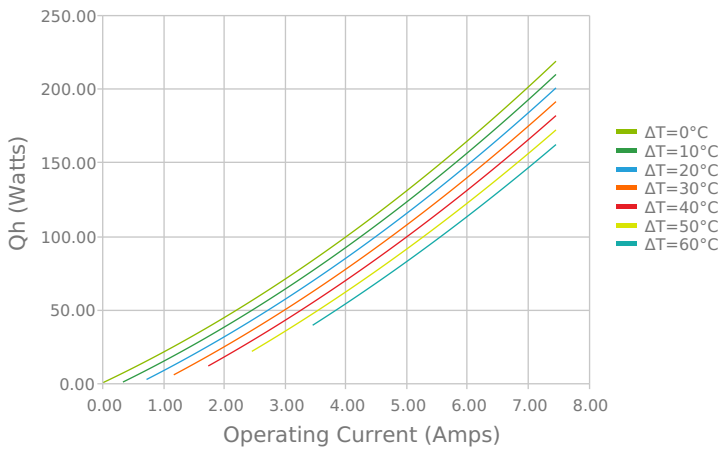
Coefficient of Performance (COP = Qc/Pin)  
Thot = 27 °C



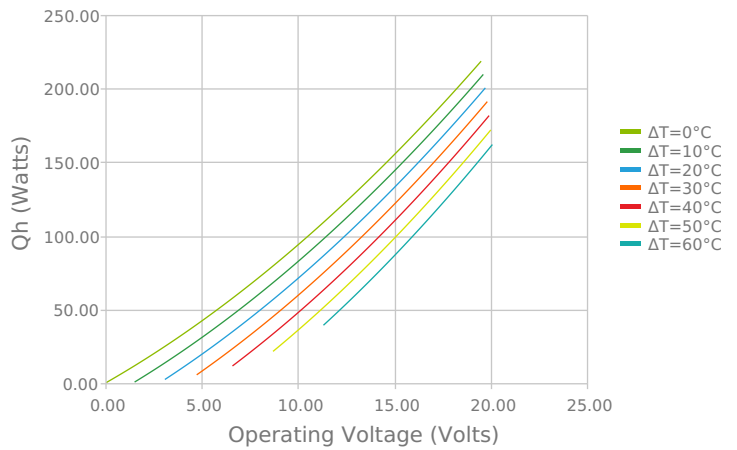
Coefficient of Performance (COP = Qc/Pin)  
Thot = 27 °C



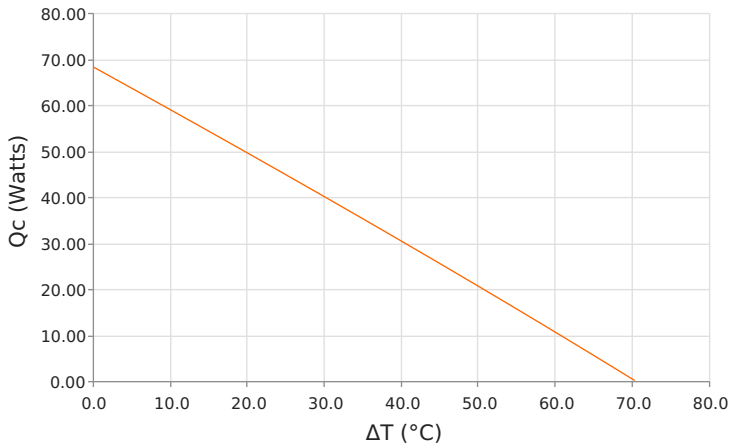
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)  
Thot = 27 °C



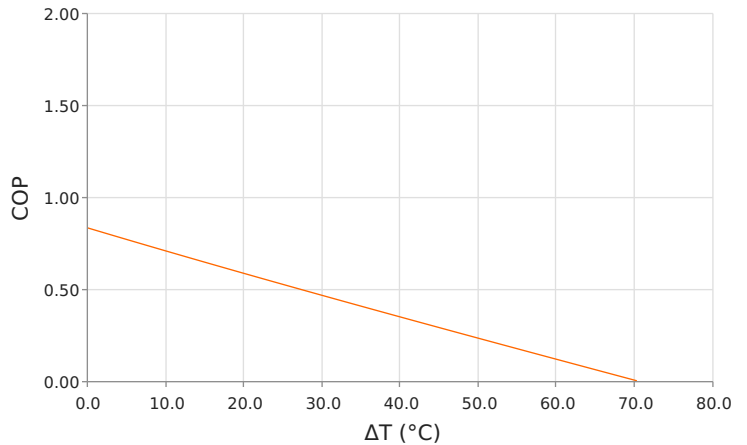
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)  
Thot = 27 °C



Heat Pumped at Cold Side (Qc)  
Thot = 27 °C | Current = 5.6 Amps



Coefficient of Performance (COP = Qc/Pin)  
Thot = 27 °C | Current = 5.6 Amps



## SPECIFICATIONS\*

| Hot Side Temperature                                      | 27.0 °C      | 35.0 °C    | 50.0 °C    |
|---|--------------|------------|------------|
| <b>Qcmax (<math>\Delta T = 0</math>)</b>                  | 72.9 Watts   | 74.9 Watts | 78.4 Watts |
| <b><math>\Delta T_{max}</math> (<math>Q_c = 0</math>)</b> | 71.7°C       | 74.8°C     | 80.4°C     |
| <b>I<sub>max</sub> (I @ <math>\Delta T_{max}</math>)</b>  | 6.7 Amps     | 6.6 Amps   | 6.5 Amps   |
| <b>V<sub>max</sub> (V @ <math>\Delta T_{max}</math>)</b>  | 18.5 Volts   | 19.2 Volts | 20.5 Volts |
| <b>Module Resistance</b>                                  | 2.61 Ohms    | 2.73 Ohms  | 2.94 Ohms  |
| <b>Max Operating Temperature</b>                          | 80 °C        |            |            |
| <b>Weight</b>   | 19.0 gram(s) |            |            |

\* Specifications reflect thermoelectric coefficients updated March 2020

## FINISHING OPTIONS

| Suffix | Thickness                            | Flatness / Parallelism                     | Hot Face | Cold Face | Lead Length         |
|--------|--------------------------------------|--|----------|-----------|---------------------|
| TA     | 3.300 ±0.025 mm<br>0.130 ± 0.0010 in | 0.025 mm / 0.025 mm<br>0.001 in / 0.001 in | Lapped   | Lapped    | 203.2 mm<br>8.00 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: 80°C
2. Do not exceed I<sub>max</sub> or V<sub>max</sub> when operating module
3. Reference assembly guidelines for recommended installation

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