

HiTemp ET Series Thermoelectric Cooler

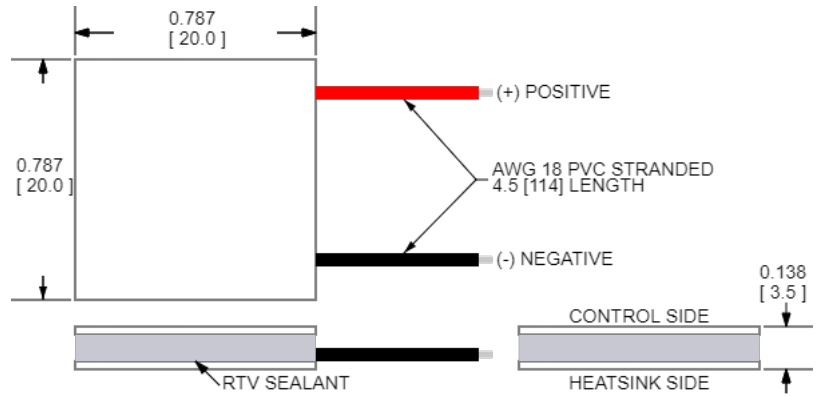
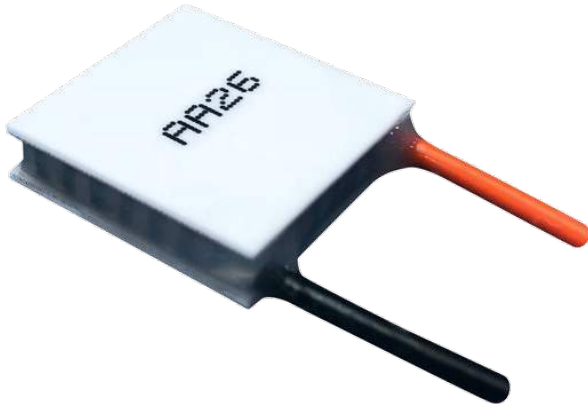
**Note: This product is not recommended for new designs.**  
 This product series has been replaced with the HiTemp ETX Series.  
 The recommended replacement is:  
 MFG Part Number: 387004957  
 Description: ETX7-3-F1-2020-TA-RT-W6

Features

- High-temperature operation
- Reliable solid-state
- No sound or vibration
- Environmentally-friendly
- 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

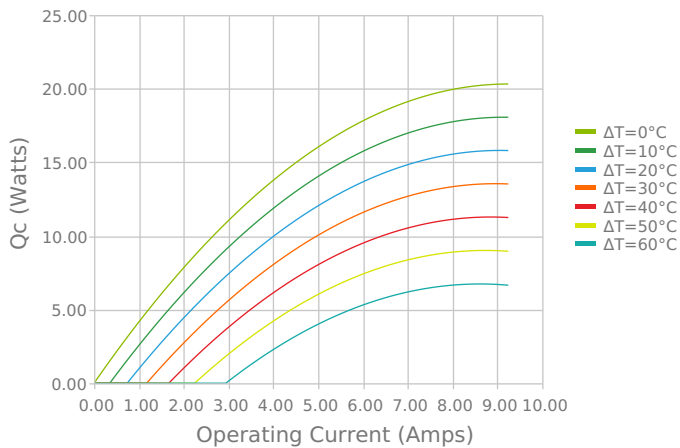


CERAMIC MATERIAL: Al<sub>2</sub>O<sub>3</sub>  
 SOLDER CONSTRUCTION: 232°C, SbSn  
 INCHES [MM]  
 Note: Allow 0.020 [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

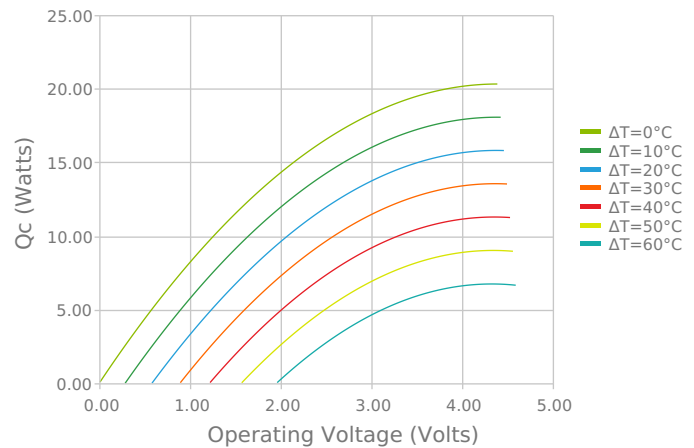
ELECTRICAL AND THERMAL PERFORMANCE

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.

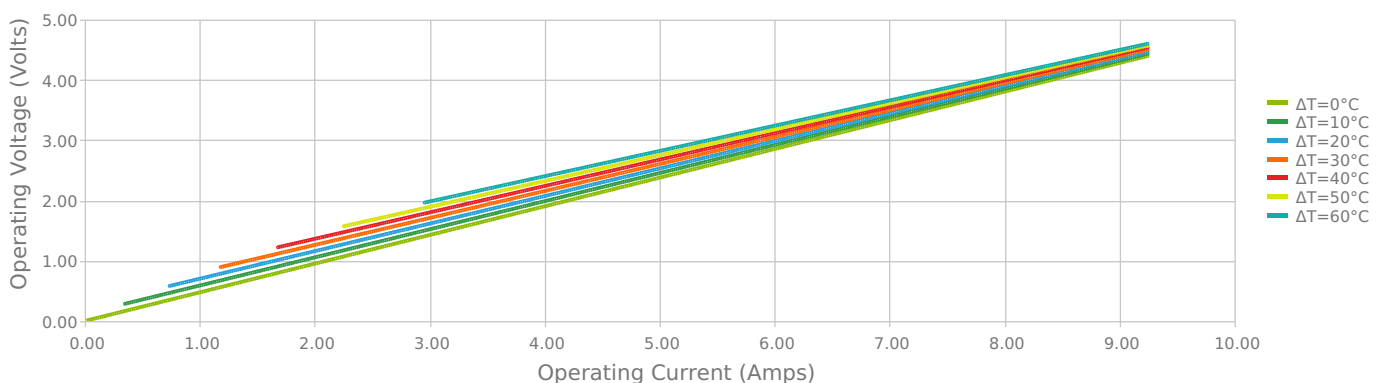
Heat Pumped at Cold Side  
 Thot = 85 °C



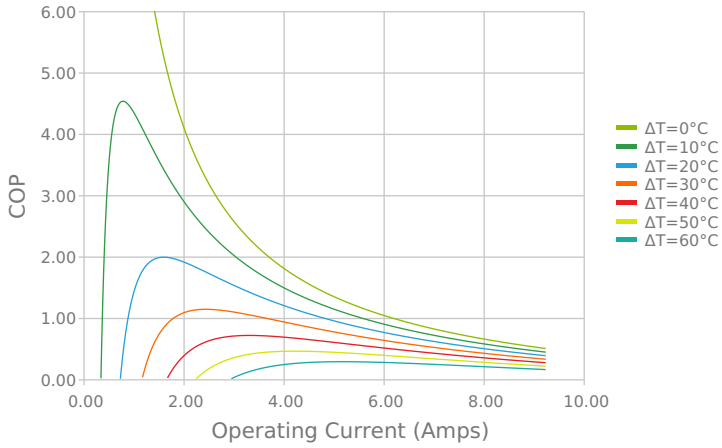
Heat Pumped at Cold Side  
 Thot = 85 °C



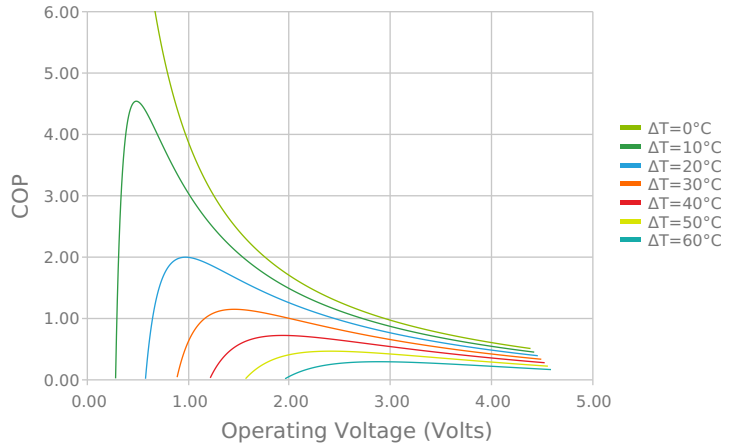
Current vs Voltage (I vs V)  
 Thot = 85 °C



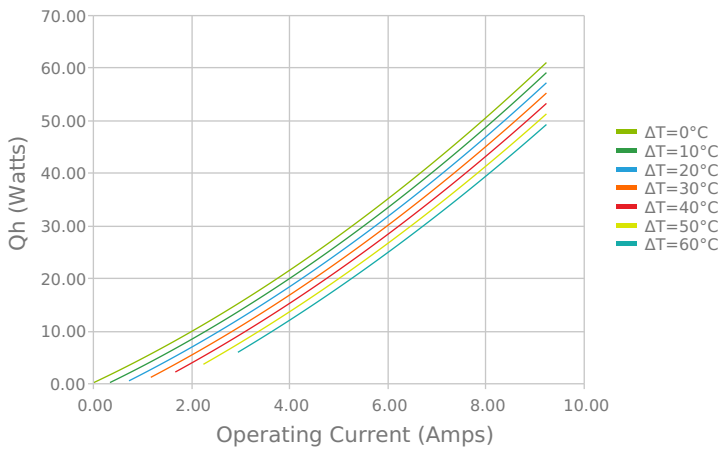
Coefficient of Performance (COP = Qc/Pin)  
Thot = 85 °C



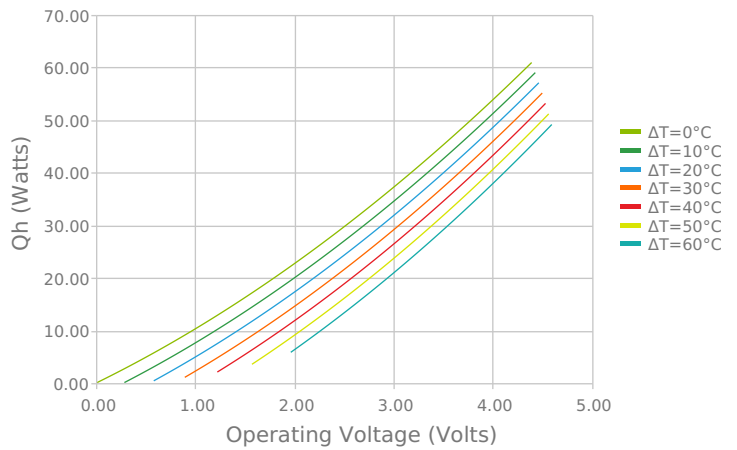
Coefficient of Performance (COP = Qc/Pin)  
Thot = 85 °C



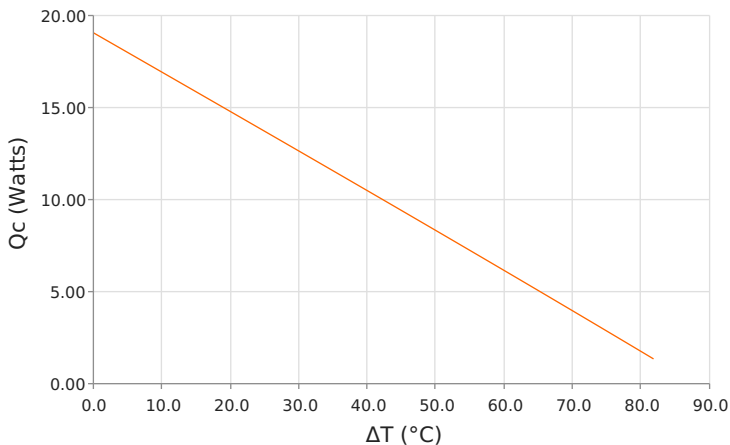
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)  
Thot = 85 °C



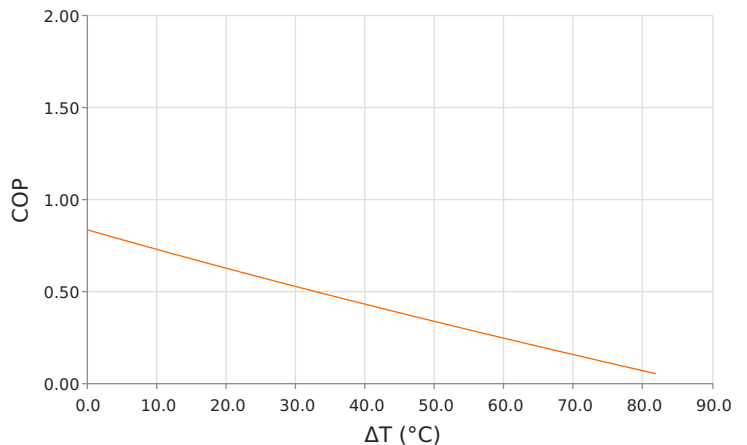
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)  
Thot = 85 °C



Heat Pumped at Cold Side (Qc)  
Thot = 85 °C | Current = 6.9 Amps



Coefficient of Performance (COP = Qc/Pin)  
Thot = 85 °C | Current = 6.9 Amps



## SPECIFICATIONS\*

Hot Side Temperature	50.0 °C	85.0 °C	110.0 °C
<b>Qcmax (<math>\Delta T = 0</math>)</b>	18.5 Watts	20.3 Watts	21.2 Watts
<b><math>\Delta T_{max}</math> (<math>Q_c = 0</math>)</b>	77.9°C	89.3°C	96.2°C
<b>I<sub>max</sub> (I @ <math>\Delta T_{max}</math>)</b>	8.4 Amps	8.2 Amps	8.1 Amps
<b>V<sub>max</sub> (V @ <math>\Delta T_{max}</math>)</b>	3.7 Volts	4.3 Volts	4.7 Volts
<b>Module Resistance</b>	0.41 Ohms	0.48 Ohms	0.52 Ohms
<b>Max Operating Temperature</b>	150 °C		
<b>Weight</b>	7.0 gram(s)		

\* Specifications reflect thermoelectric coefficients updated March 2020

## FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
11	3.510 ±0.051 mm 0.138 ± 0.0020 in	0.051 mm / 0.051 mm 0.002 in / 0.002 in	Lapped	Lapped	50.8 mm 2.00 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: 150°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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