HiTemp ET Series ET7-3-F1-2020-TA-RT-W4.5
MFG Part Number: 387001836

Legacy Product

HiTemp ET Series Thermoelectric Cooler

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

The recommended replacement is:

MFG Part Number: 387004957

Description: ETX7-3-F1-2020-TA-RT-W6

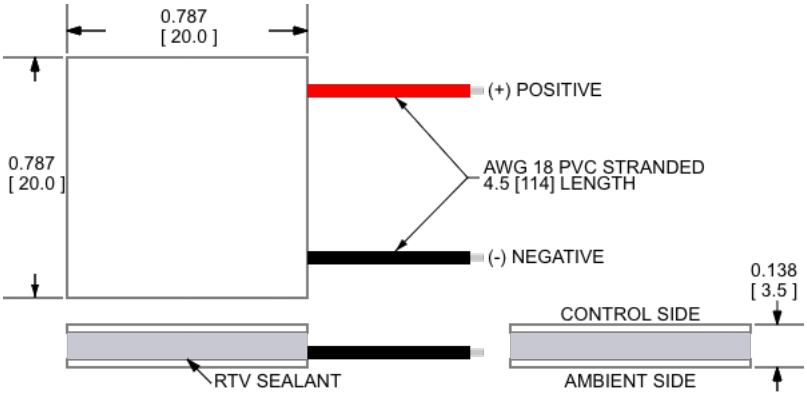
The ET7-3-F1-2020-TA-RT-W4.5 high temperature thermoelectric cooler uses Laird Thermal Systems' enhanced Thermoelectric Module construction preventing performance degrading diffusion, which is common in standard grade thermoelectric coolers operating in high temperature environments exceeding 80 °C. It has a maximum Qc of 18.5 Watts when ΔT = 0 and a maximum ΔT of 77.9 °C at Qc = 0.

Features

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

Applications

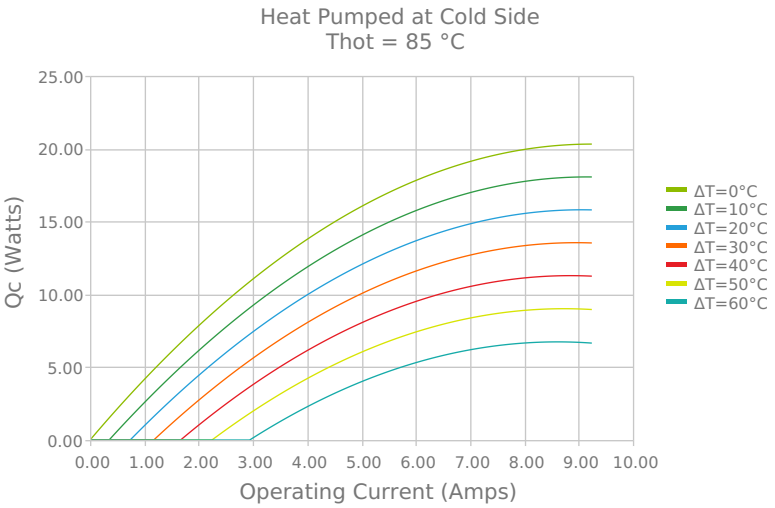
- Peltier Cooling for Refrigerated Centrifuges
- Peltier Cooling for Machine Vision
- Thermoelectric Cooling for CMOS Sensors
- Cooling Solutions for Autonomous Systems
- Peltier Cooling for Digital Light Processors

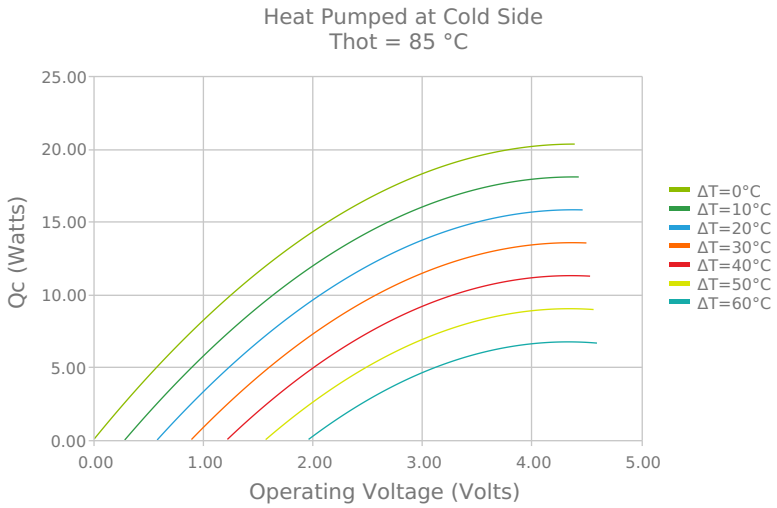


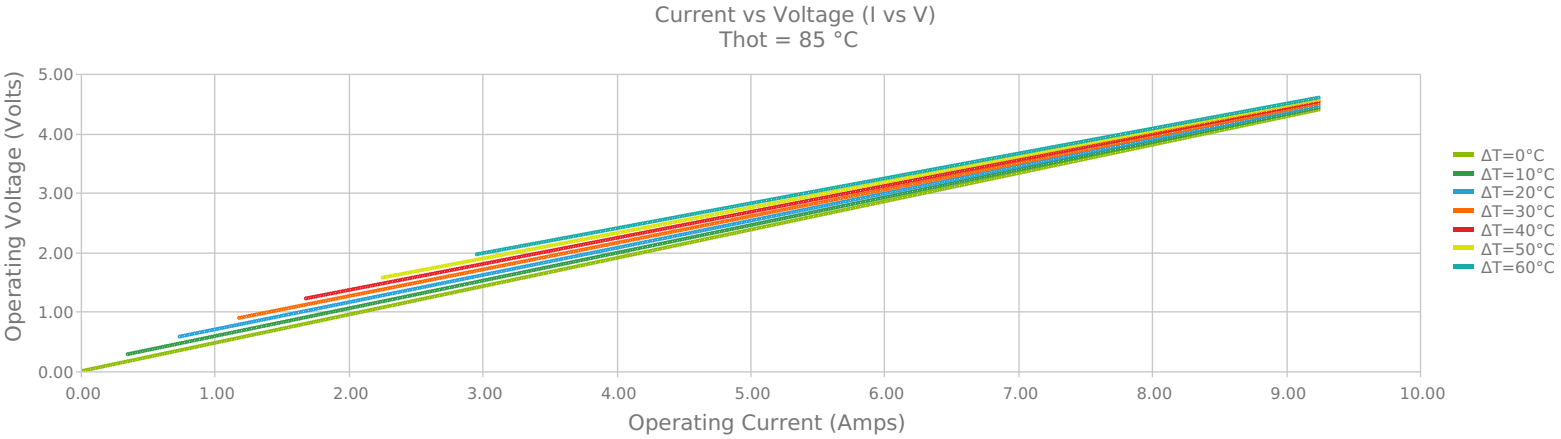
CERAMIC MATERIAL: Al_2O_3
SOLDER CONSTRUCTION: 232°C, SbSn
INCHES [MM]
Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

Electrical and Thermal Performance

For maximum performance, be sure to orient the CONTROL side of the TEC against the application to be managed and the AMBIENT 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.







TTS
TARK THERMAL SOLUTIONS

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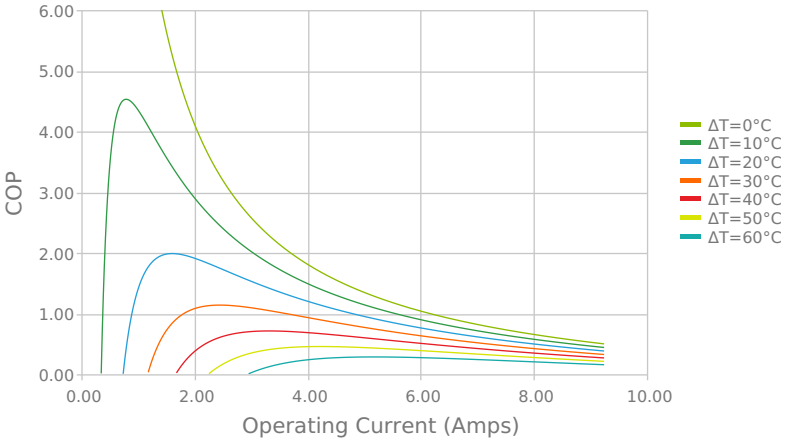
Coefficient of Performance (COP = Qc/Pin)
Thot = 85 °C



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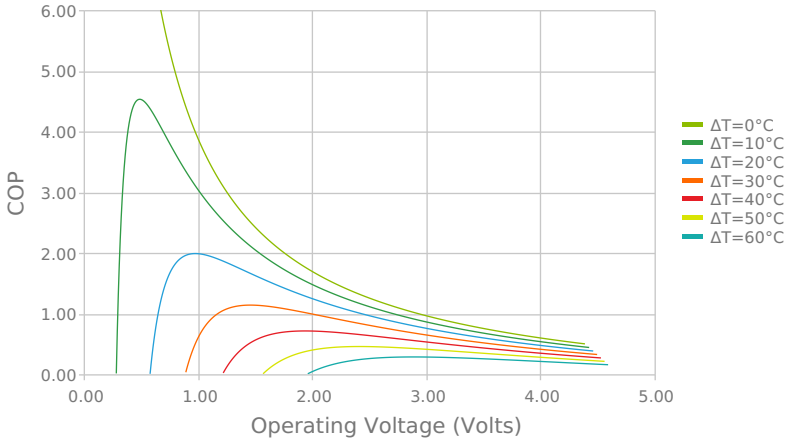
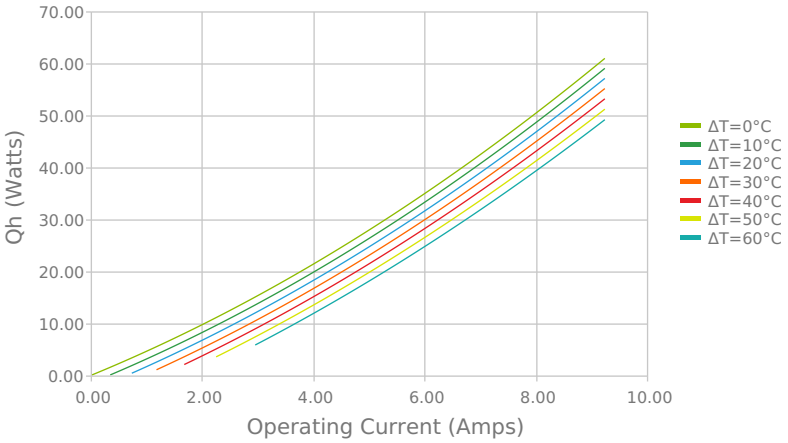


Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 85 °C



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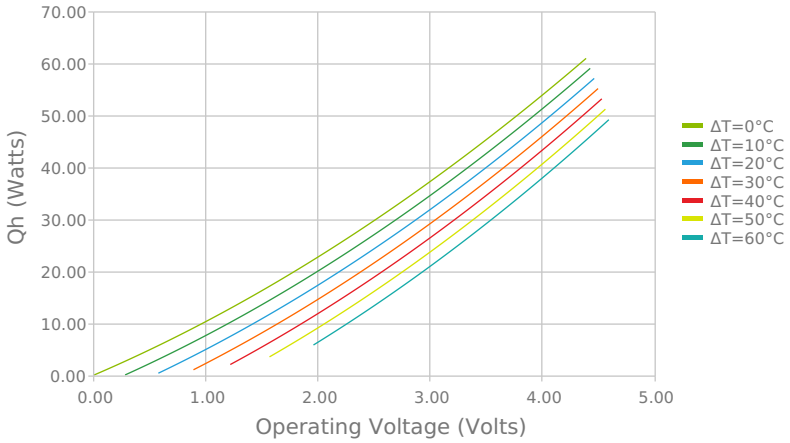
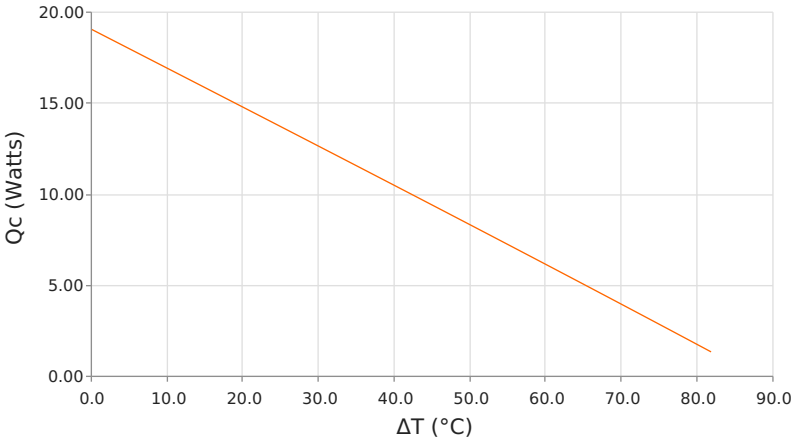
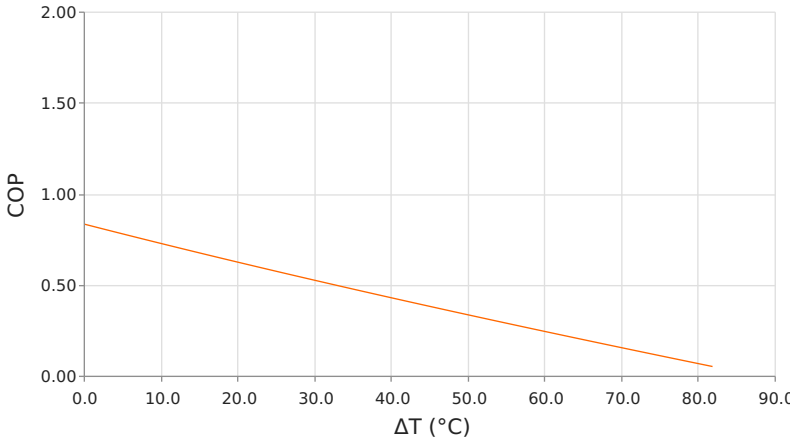


Heat Pumped at Cold Side (Qc)
Thot = 85 °C | Ioperating = 7 Amps



Coefficient of Performance (COP = Qc/Pin)
Thot = 85 °C | Ioperating = 7 Amps



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Specifications

Hot Side Temperature	50.0 °C	85.0 °C	110.0 °C
Qcmax (ΔT = 0)	18.5 Watts	20.3 Watts	21.2 Watts
ΔTmax (Qc = 0)	77.9°C	89.3°C	96.2°C
Imax (I @ ΔTmax)	8.4 Amps	8.2 Amps	8.1 Amps
Vmax (V @ ΔTmax)	3.7 Volts	4.3 Volts	4.7 Volts
Module Resistance	0.41 Ohms	0.48 Ohms	0.52 Ohms
Max Operating Temperature	150 °C		
Weight	7.0 gram(s)		

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

Max operating temperature: 150°C
Do not exceed Imax or Vmax when operating module
Reference assembly guidelines for recommended installation

Revision: 00 Date: 06-01-2022

Print Date: 05-29-2025