HiTemp ET Series ET4-7-F1-2323-TA-RT-W4.5
MFG Part Number: 387001742

HiTemp ET Series Thermoelectric Cooler

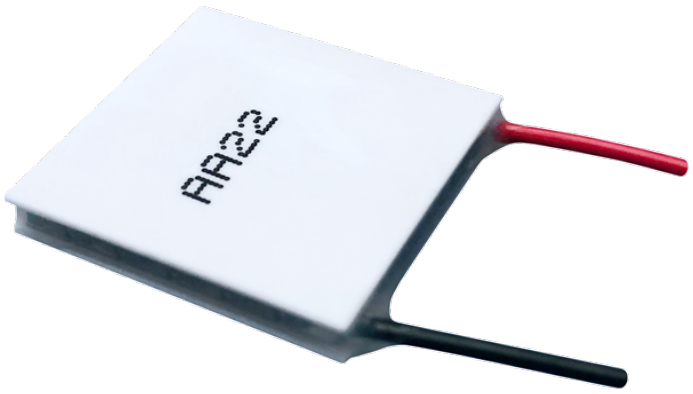
The ET4-7-F1-2323-TA-RT-W4.5 high temperature Thermoelectric Cooler uses Laird's enhanced Thermoelectric Module construction preventing performance degrading copper diffusion, which is common in standard grade TEMs operating in high temperature environments exceeding 80 °C. It has a maximum Qc of 19.6 Watts when ΔT = 0 and a maximum ΔT of 77.9 °C at Qc = 0.

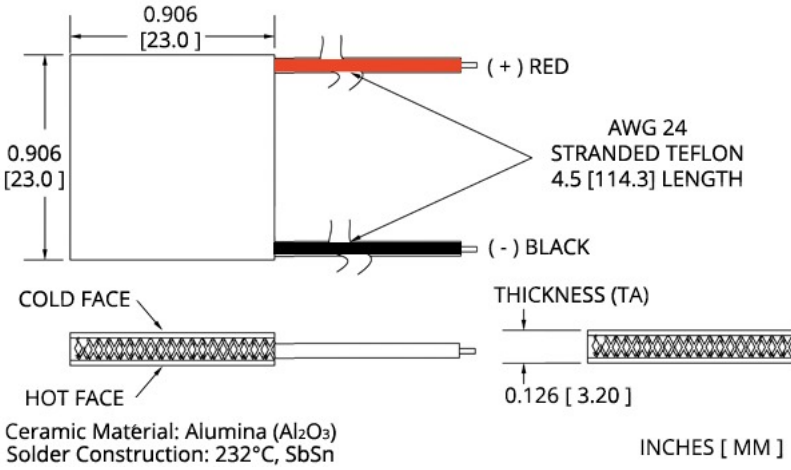
Features

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

Applications

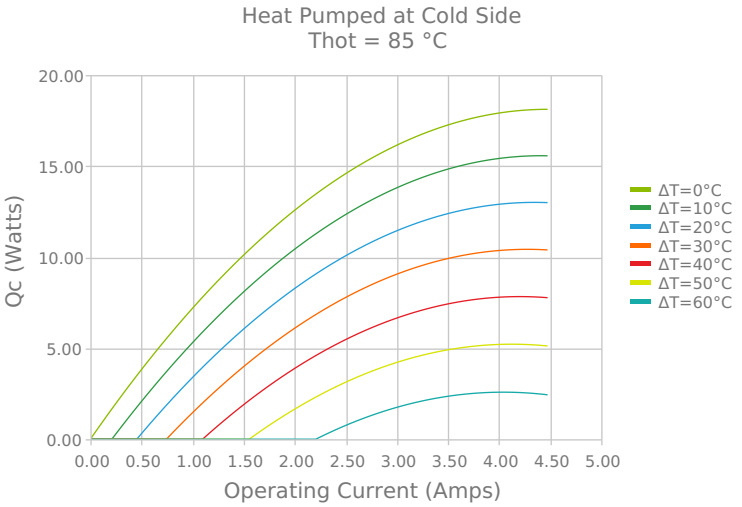
- Peltier Cooling for Refrigerated Centrifuges
- Peltier Cooling for Machine Vision
- Thermoelectric Cooling for CMOS Sensors
- Cooling Solutions for Autonomous Systems
- Peltier Cooling for Digital
- Light Processors

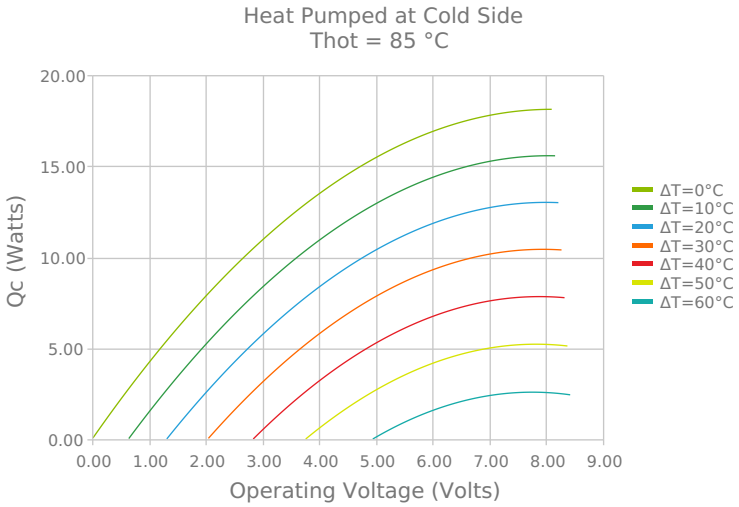


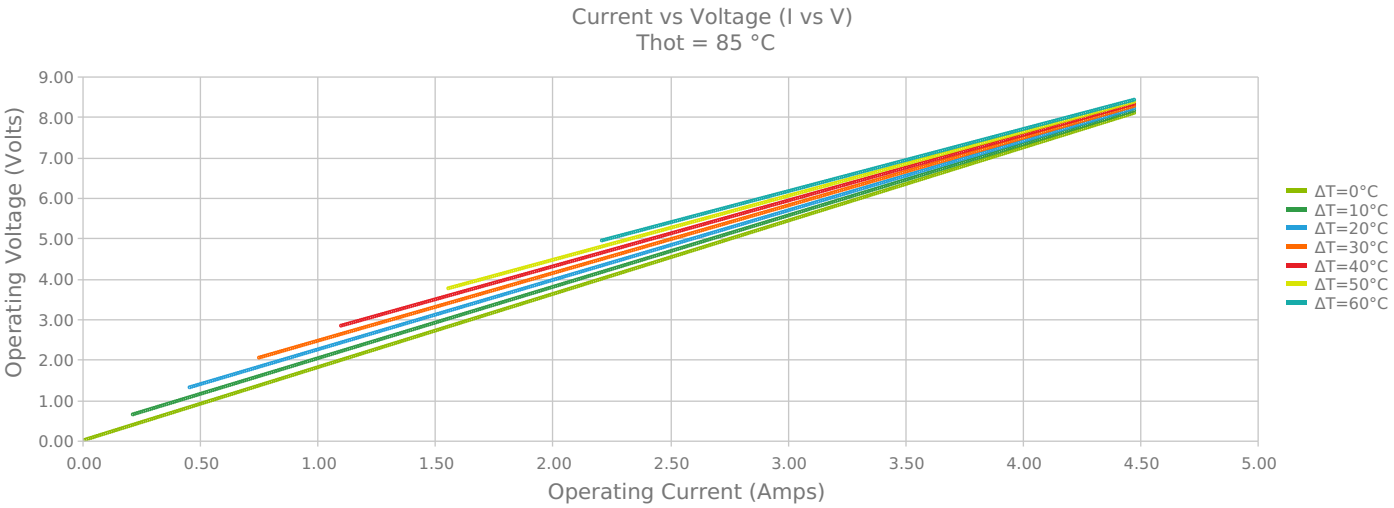


Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

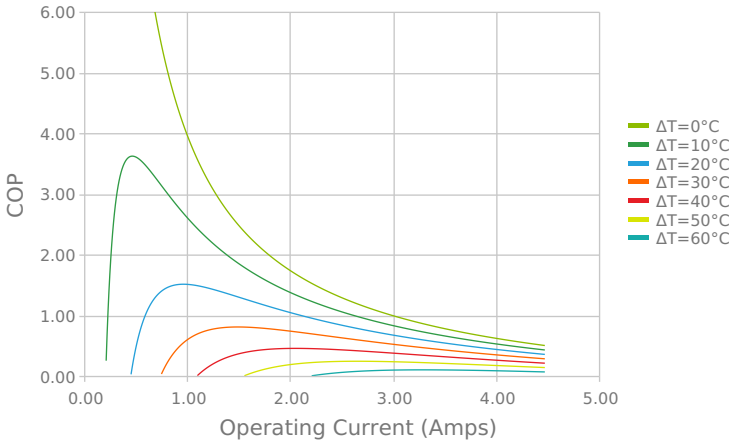
ELECTRICAL AND THERMAL PERFORMANCE



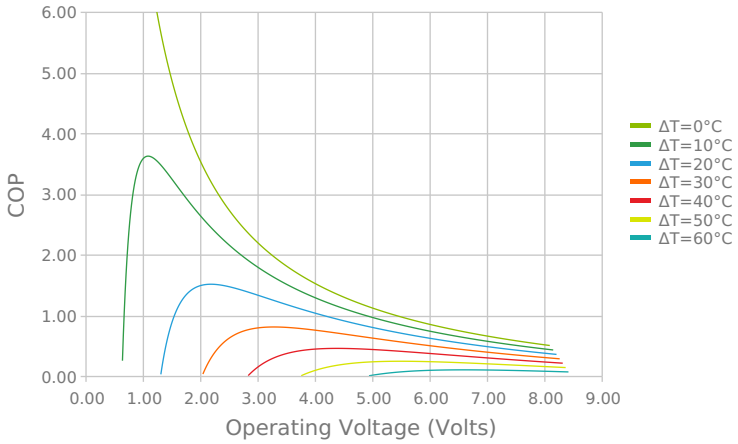



Current vs Voltage (I vs V)
Thot = 85 °C
Operating Voltage (Volts)
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
Operating Current (Amps)
ΔT=0°C
ΔT=10°C
ΔT=20°C
ΔT=30°C
ΔT=40°C
ΔT=50°C
ΔT=60°C

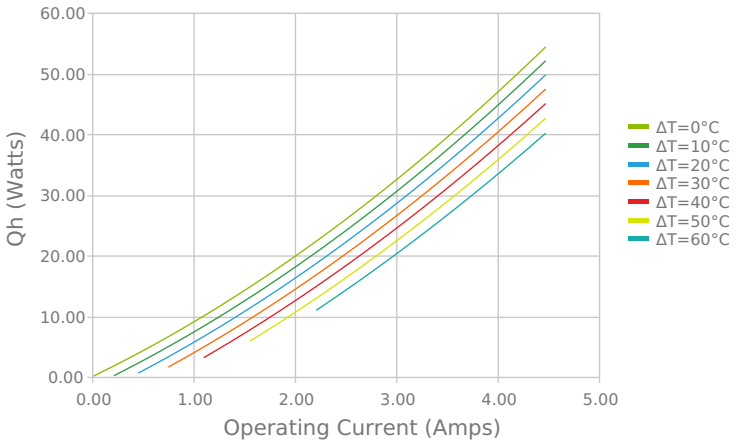
Coefficient of Performance (COP = Qc/Pin)
Thot = 85 °C



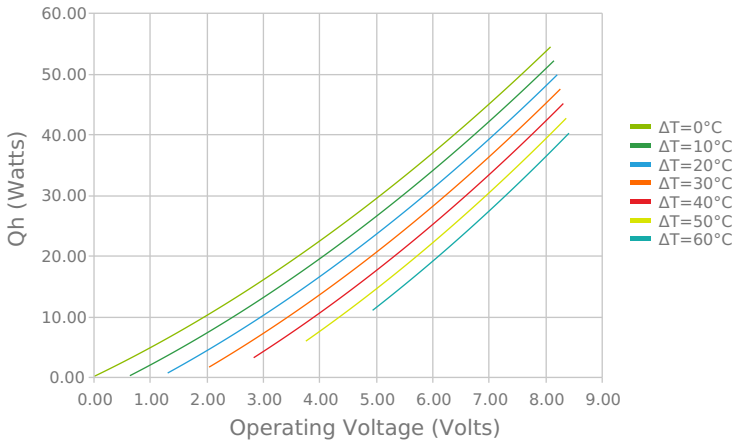
Coefficient of Performance (COP = Qc/Pin)
Thot = 85 °C



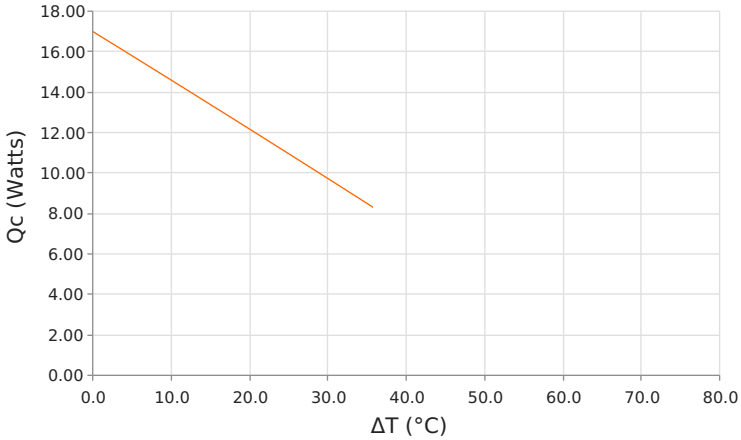
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 85 °C



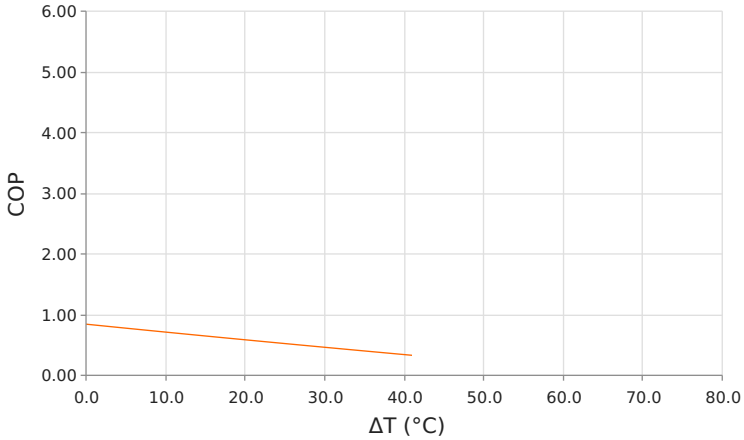
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 85 °C



Heat Pumped at Cold Side (Qc)
Thot = 85 °C | Current = 3.4 Amps



Coefficient of Performance (COP = Qc/Pin)
Thot = 85 °C | Current = 3.4 Amps



SPECIFICATIONS*

Hot Side Temperature	50.0 °C	85.0 °C	110.0 °C
Qcmax (ΔT = 0)	19.6 Watts	21.5 Watts	22.5 Watts
ΔTmax (Qc = 0)	77.9°C	89.3°C	96.2°C
Imax (I @ ΔTmax)	3.9 Amps	3.8 Amps	3.7 Amps
Vmax (V @ ΔTmax)	8.5 Volts	9.8 Volts	10.7 Volts
Module Resistance	2.03 Ohms	2.35 Ohms	2.58 Ohms
Max Operating Temperature	150 °C		
Weight	6.0 gram(s)		

* Specifications reflect thermoelectric coefficients updated March 2020

FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
11	3.200 ±0.051 mm 0.126 ± 0.002 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	White	-60 to 204°C	Non-corrosive, silicone adhesive

NOTES

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

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Date: 04/24/2020