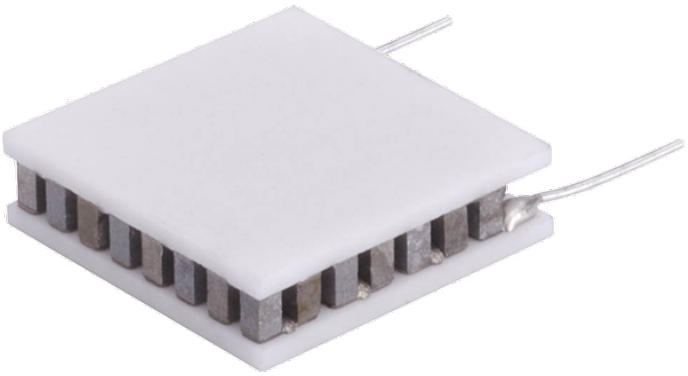
# HiTemp ET Series ET20-31-F1A-0909-GG-W2.25
# MFG Part Number: 430549-507
**Legacy Product**

## HiTemp ET Series Thermoelectric Cooler

The ET20-31-F1A-0909-GG-W2.25 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 4.3 Watts when ΔT = 0 and a maximum ΔT of 77.9 °C at Qc = 0.

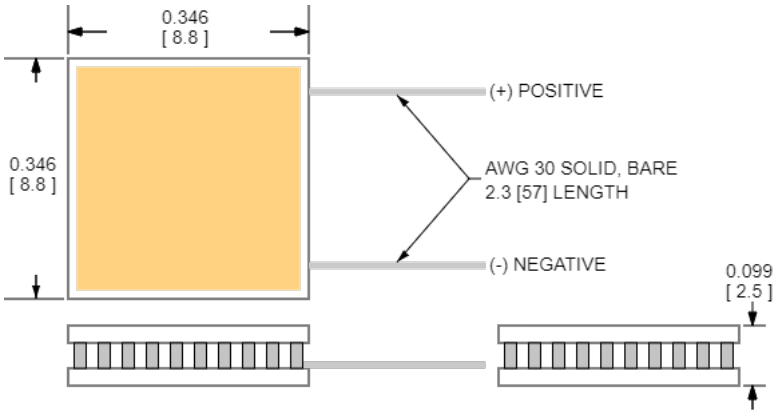


## Features

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

## Applications

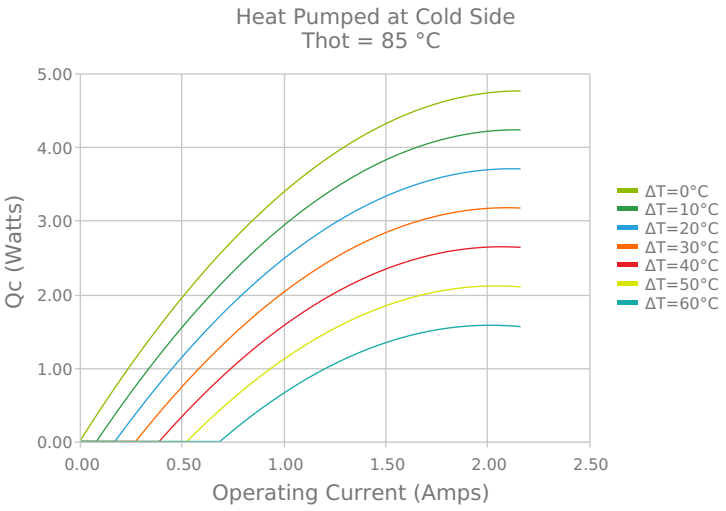
- Peltier Cooling for Refrigerated Centrifuges
- Peltier Cooling for Machine Vision
- Thermoelectric Cooling for CMOS Sensors
- Cooling Solutions for Autonomous Systems
- Peltier Cooling for Digital
- Light Processors

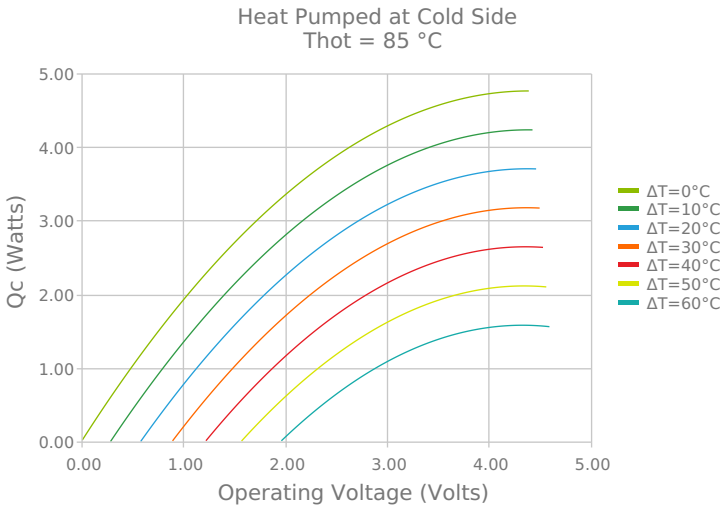


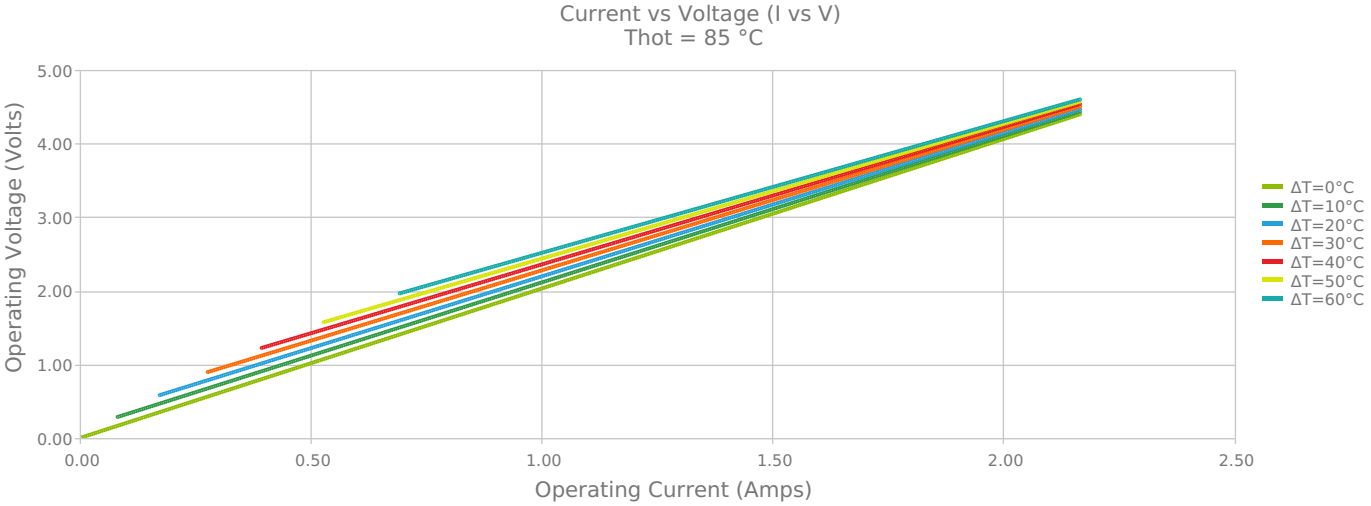

CERAMIC MATERIAL: $Al_2O_3$
SOLDER CONSTRUCTION: 232°C, SbSn

INCHES [ MM ]

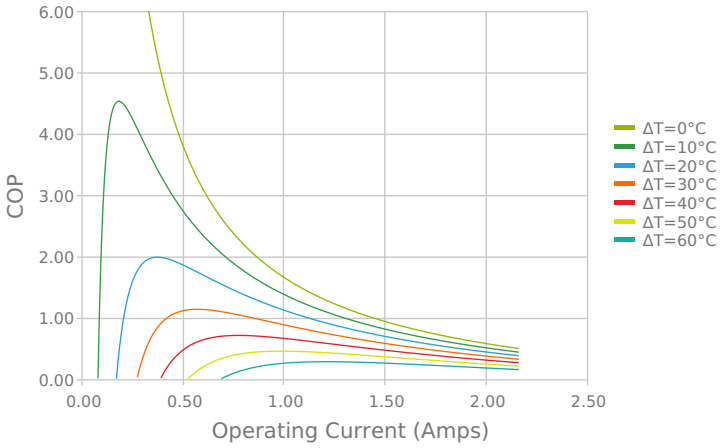
## ELECTRICAL AND THERMAL PERFORMANCE



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

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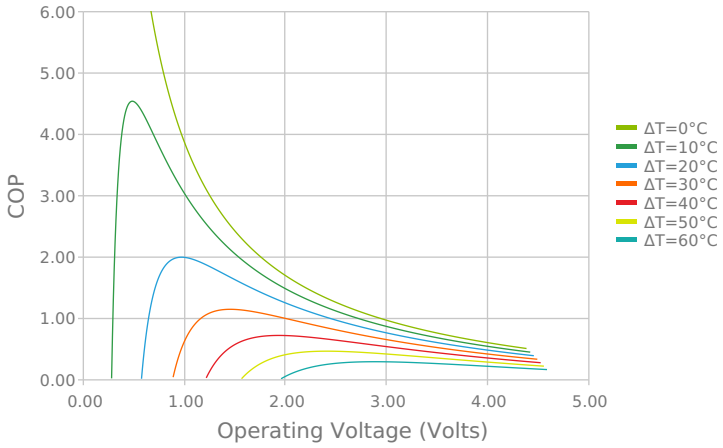
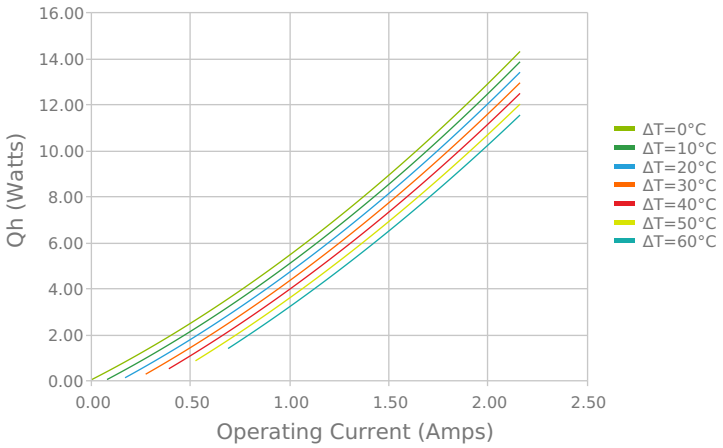



Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 85 °C

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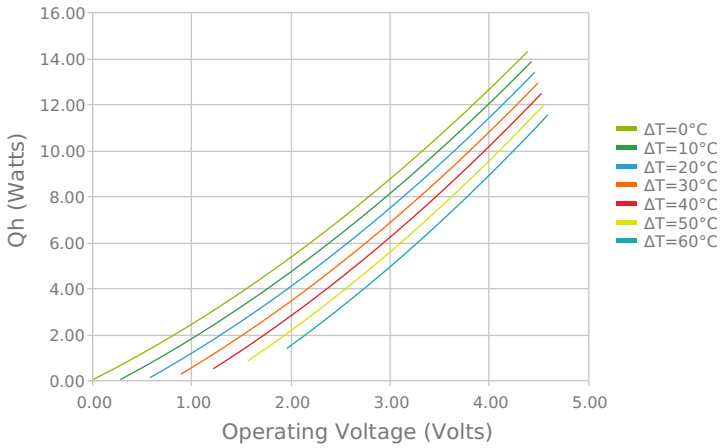
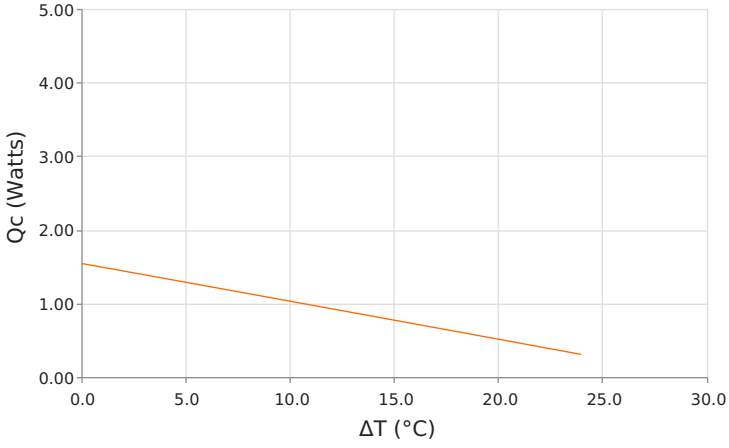
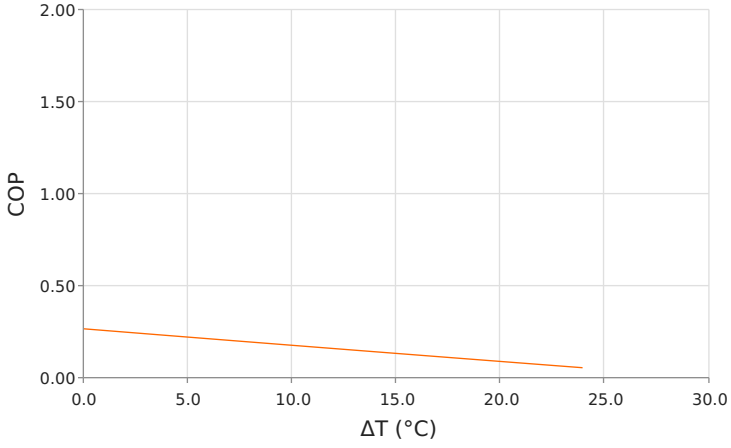



Heat Pumped at Cold Side (Qc)
Thot = 85 °C | Current = 1.6 Amps




Coefficient of Performance (COP = Qc/Pin)
Thot = 85 °C | Current = 1.6 Amps



## SPECIFICATIONS*

| Hot Side Temperature | 50.0 °C | 85.0 °C | 110.0 °C |
|---|---|---|---|
| Qcmax (ΔT = 0) | 4.3 Watts | 4.8 Watts | 5.0 Watts |
| ΔTmax (Qc = 0) | 77.9°C | 89.3°C | 96.2°C |
| Imax (I @ ΔTmax) | 2.0 Amps | 1.9 Amps | 1.9 Amps |
| Vmax (V @ ΔTmax) | 3.7 Volts | 4.3 Volts | 4.7 Volts |
| Module Resistance | 1.75 Ohms | 2.03 Ohms | 2.22 Ohms |
| Max Operating Temperature | 150 °C | | |
| Weight | 1.0 gram(s) | | |

* Specifications reflect thermoelectric coefficients updated March 2020

## FINISHING OPTIONS

| Suffix | Thickness | Flatness / Parallelism | Hot Face | Cold Face | Lead Length |
|---|---|---|---|---|---|
| GG | 2.515 ±0.127 mm<br>0.099 ± 0.0050 in | N/A / N/A | Au Plated | Au Plated | 50.8 mm<br>2.00 in |

## SEALING OPTIONS

| Suffix | Sealant | Color | Temp Range | Description |
|---|---|---|---|---|
| | None | | | No sealing specified |

## NOTES

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



Date: 08/30/2021