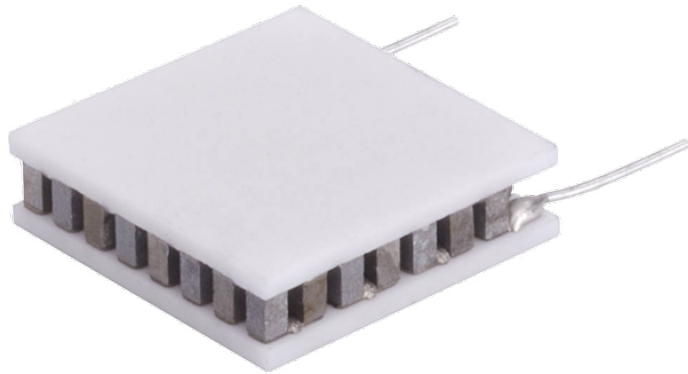


**HiTemp ET Series Thermoelectric Cooler**

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  $\Delta T = 0$  and a maximum  $\Delta T$  of 77.9 °C at Qc = 0.

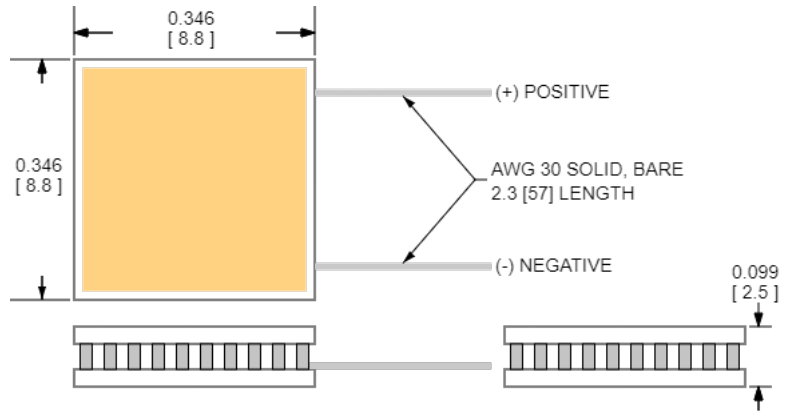


**Features**

- 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

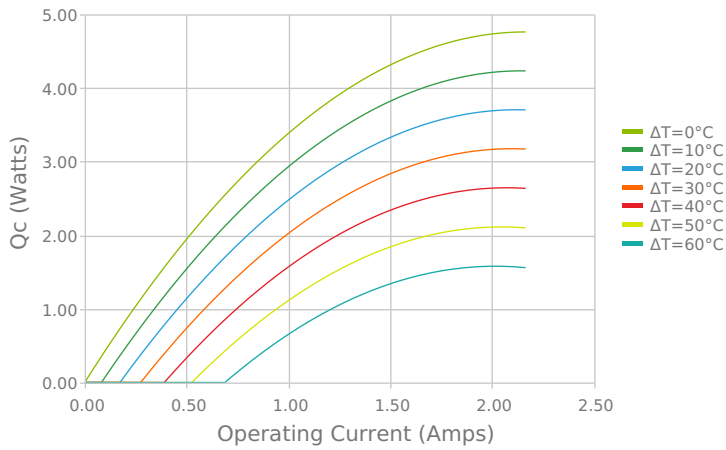


CERAMIC MATERIAL: Al<sub>2</sub>O<sub>3</sub>  
SOLDER CONSTRUCTION: 232°C, SbSn

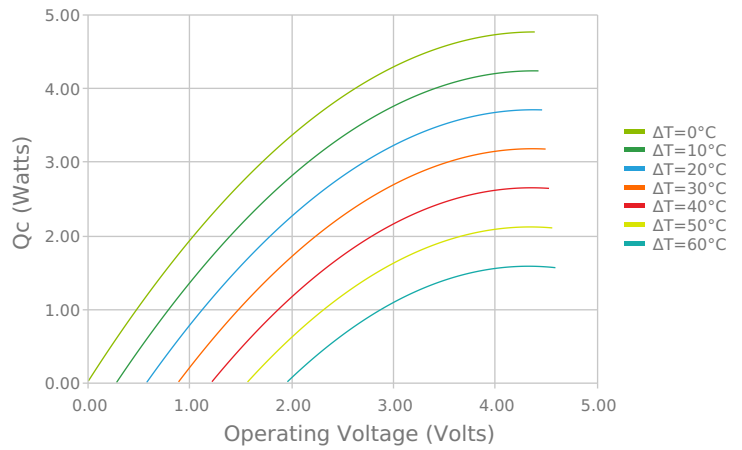
INCHES [MM]

**ELECTRICAL AND THERMAL PERFORMANCE**

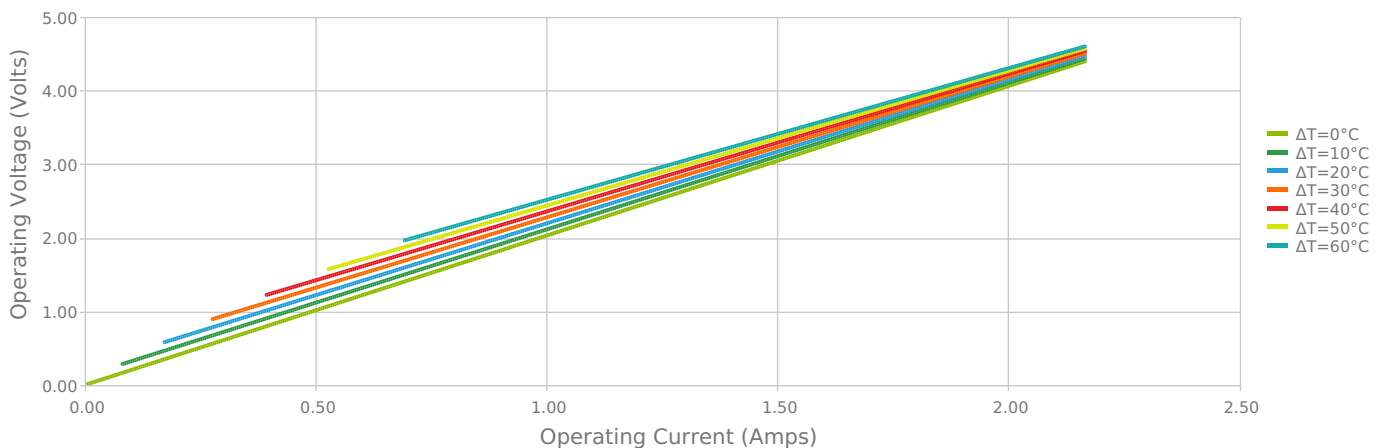
Heat Pumped at Cold Side  
Thot = 85 °C



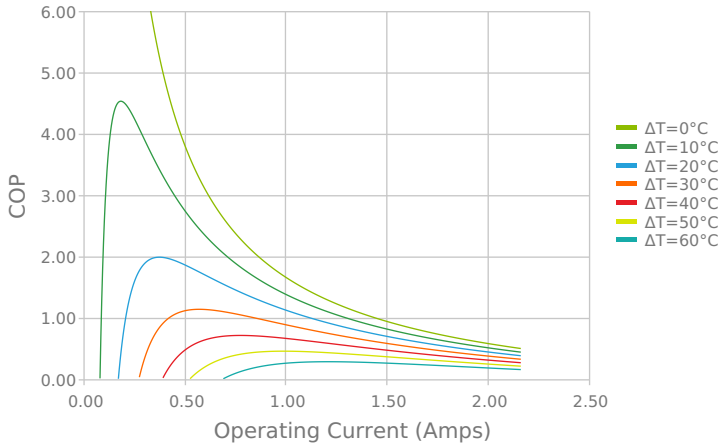
Heat Pumped at Cold Side  
Thot = 85 °C



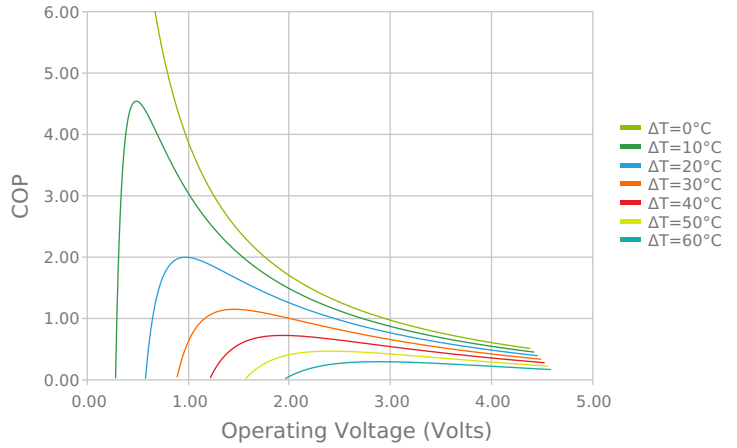
Current vs Voltage (I vs V)  
Thot = 85 °C



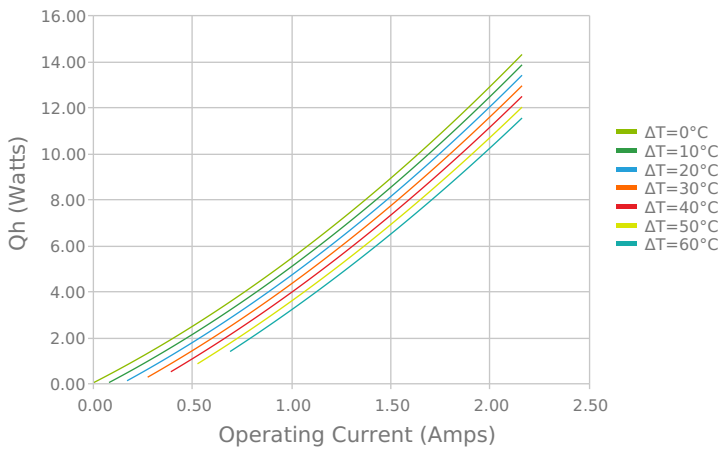
Coefficient of Performance (COP = Qc/Pin)  
Thot = 85 °C



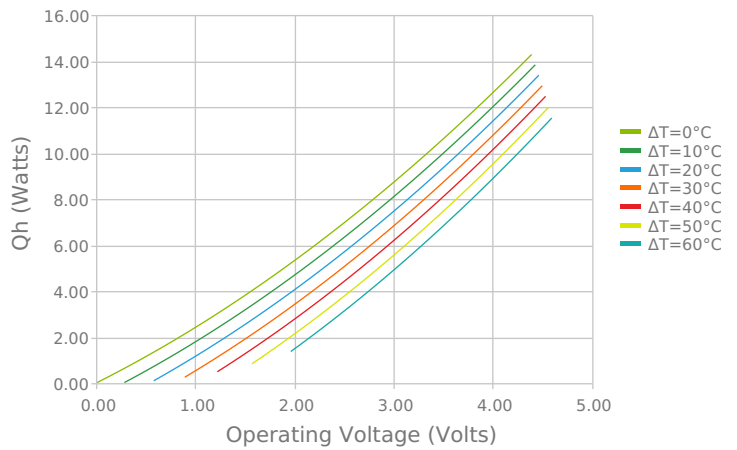
Coefficient of Performance (COP = Qc/Pin)  
Thot = 85 °C



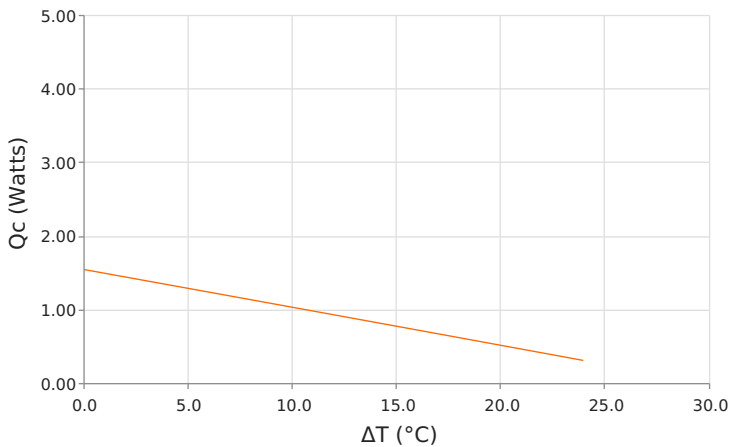
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)  
Thot = 85 °C



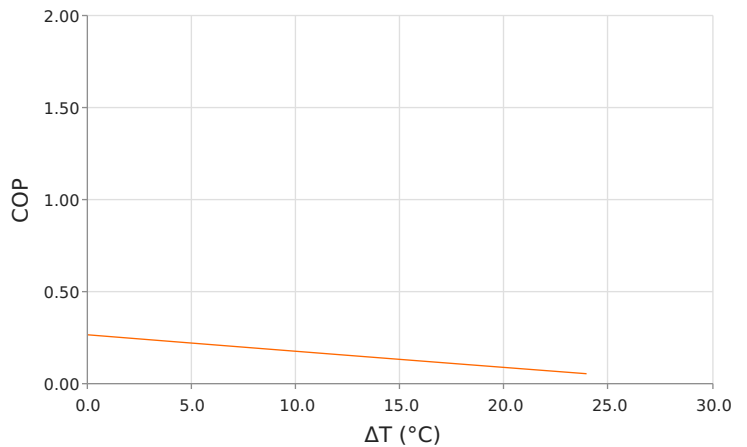
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)  
Thot = 85 °C



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



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



## SPECIFICATIONS\*

	50.0 °C	85.0 °C	110.0 °C
<b>Hot Side Temperature</b>			
<b>Qcmax (<math>\Delta T = 0</math>)</b>	4.3 Watts	4.8 Watts	5.0 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>	2.0 Amps	1.9 Amps	1.9 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>	1.75 Ohms	2.03 Ohms	2.22 Ohms
<b>Max Operating Temperature</b>	150 °C		
<b>Weight</b>	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 0.099 ± 0.0050 in	N/A / N/A	Au Plated	Au Plated	50.8 mm 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 I<sub>max</sub> or V<sub>max</sub> when operating module
3. Reference assembly guidelines for recommended installation

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Date: 08/30/2021