HiTemp ETX Series Thermoelectric Cooler

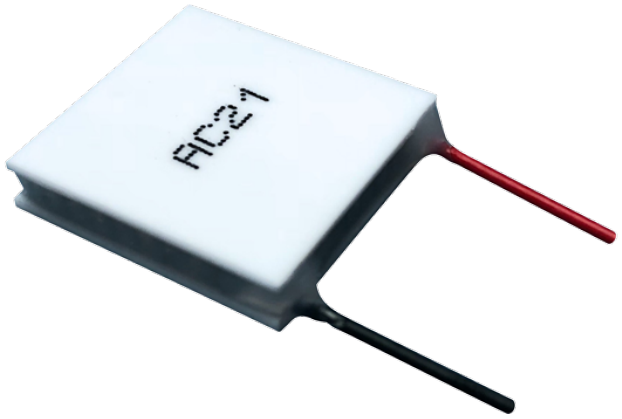
The ETX3-48-F1-1212-GG-W6 high temperature, high-performance thermoelectric cooler uses Laird Thermal Systems' enhanced thermoelectric module construction preventing performance degrading diffusion, which is common in standard grade thermoelectric coolers operating in high temperature environments exceeding 80 °C. It has a maximum Qc of 11.3 Watts when ΔT = 0 and a maximum ΔT of 83.2 °C at Qc = 0.

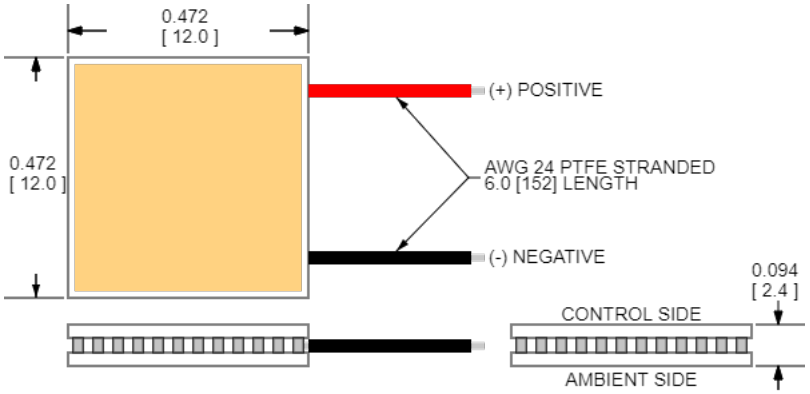
Features

- 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
- Heating and Cooling for Liquid Chromatography Systems
- Thermoelectric Cooling for Security Cameras



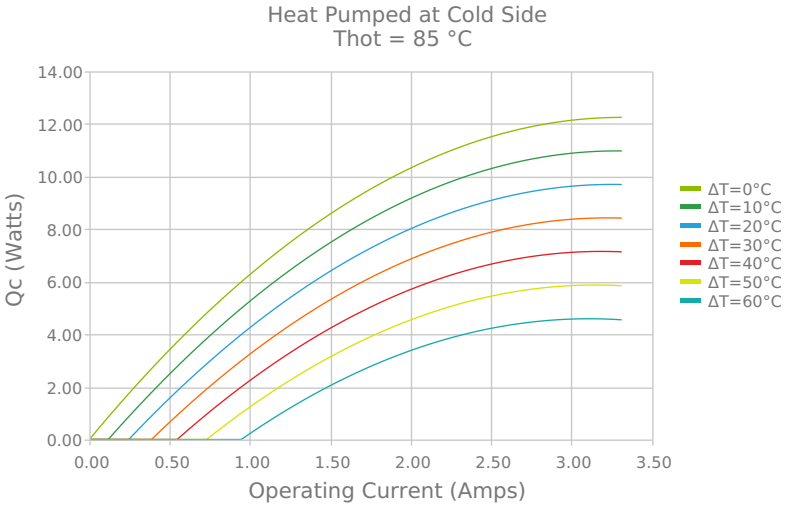


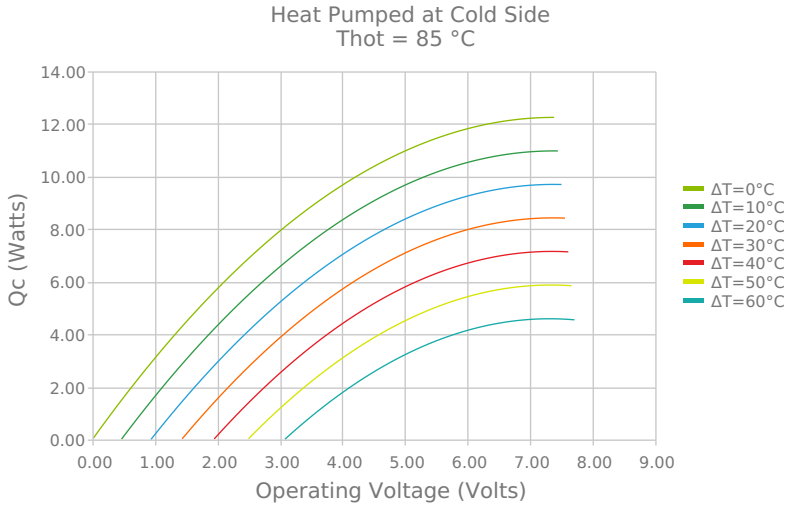
CERAMIC MATERIAL: Al_2O_3
SOLDER CONSTRUCTION: 232°C, SbSn

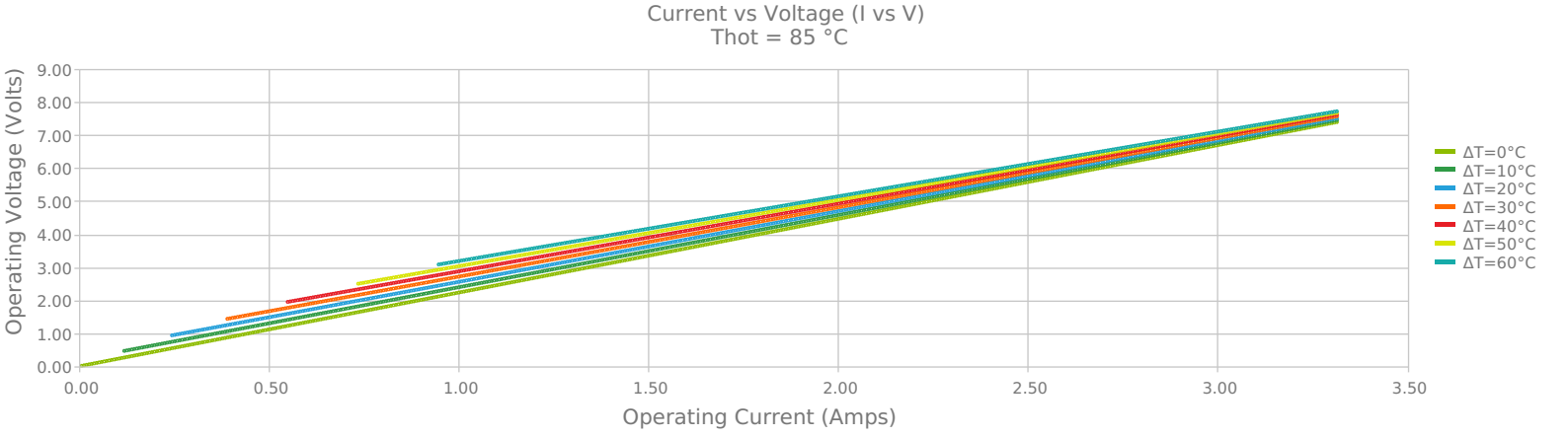
INCHES [MM]

ELECTRICAL AND THERMAL PERFORMANCE

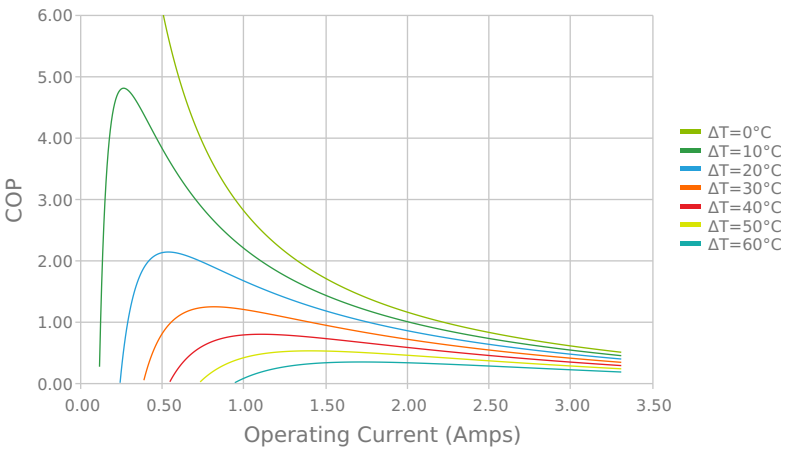
For maximum performance, be sure to orient the CONTROL side of the TEC against the application to be managed and the AMBIENT side against the heat sink or other heat rejection method. The CONTROL side is always opposite the side with lead attachments. Lead attachment is a passive heat loss and less impactful if located on the side that attaches to the heat exchanger.







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



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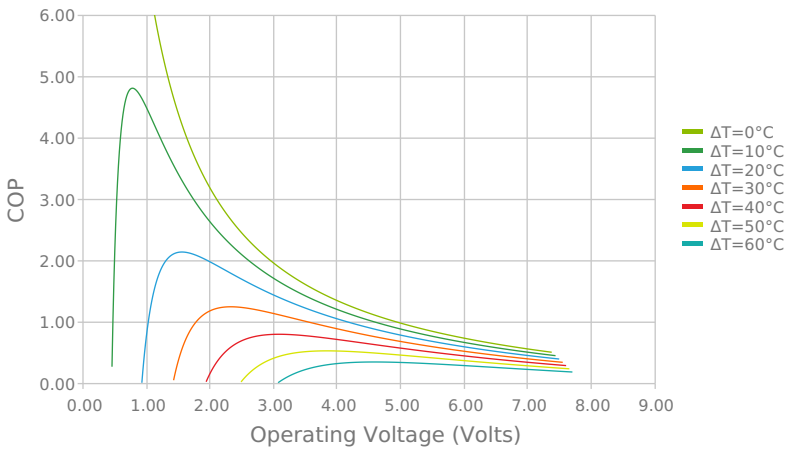
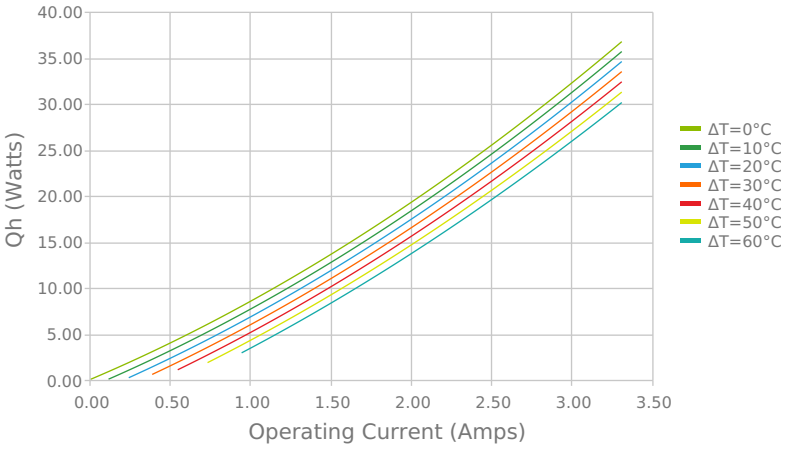


Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 85 °C



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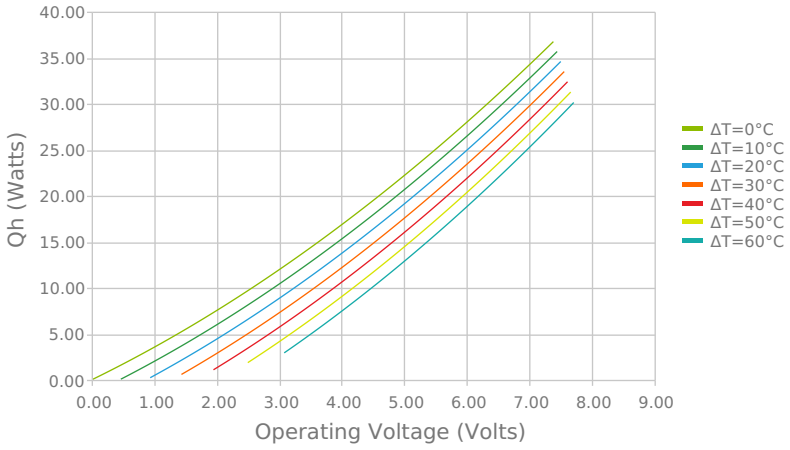
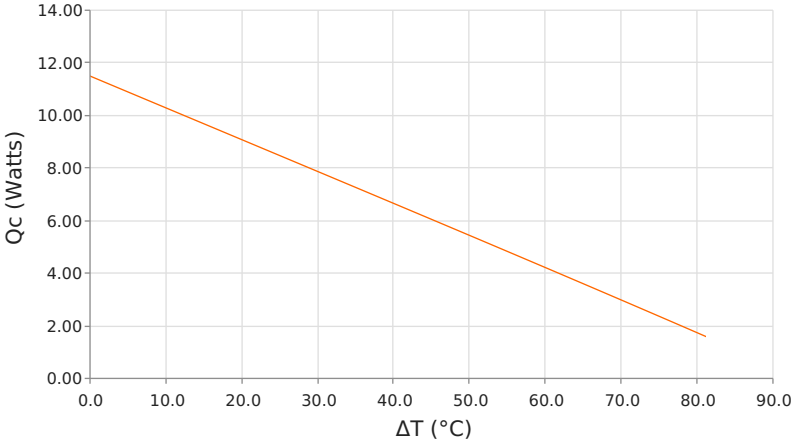
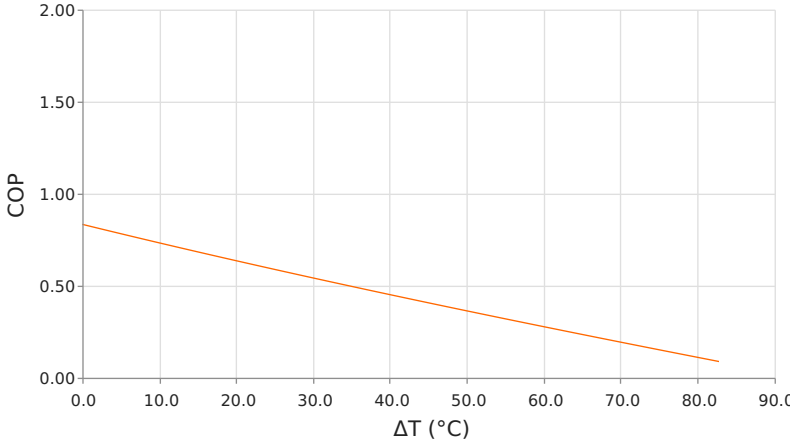


Heat Pumped at Cold Side (Qc)
Thot = 85 °C | Ioperating = 2.5 Amps



Coefficient of Performance (COP = Qc/Pin)
Thot = 85 °C | Ioperating = 2.5 Amps



SPECIFICATIONS

Hot Side Temperature	50.0 °C	85.0 °C	110.0 °C
Qcmax (ΔT = 0)	11.3 Watts	12.2 Watts	12.6 Watts
ΔTmax (Qc = 0)	83.2°C	95.3°C	102.0°C
Imax (I @ ΔTmax)	3.1 Amps	3.0 Amps	2.9 Amps
Vmax (V @ ΔTmax)	6.3 Volts	7.2 Volts	7.8 Volts
Module Resistance	1.91 Ohms	2.23 Ohms	2.44 Ohms
Max Operating Temperature	150 °C		
Weight	5.0 gram(s)		

FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
GG	2.380 ±0.127 mm 0.094 ± 0.0050 in	N/A / N/A	Au Plated	Au Plated	152.4 mm 6.00 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

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