

HiTemp ETX Series Thermoelectric Cooler

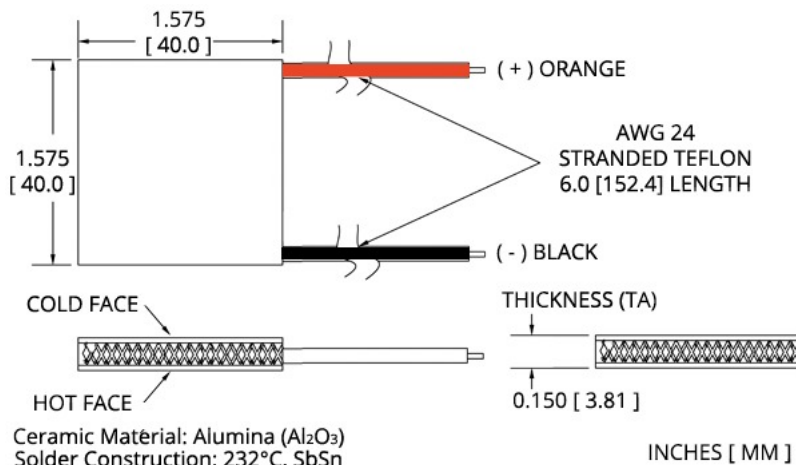
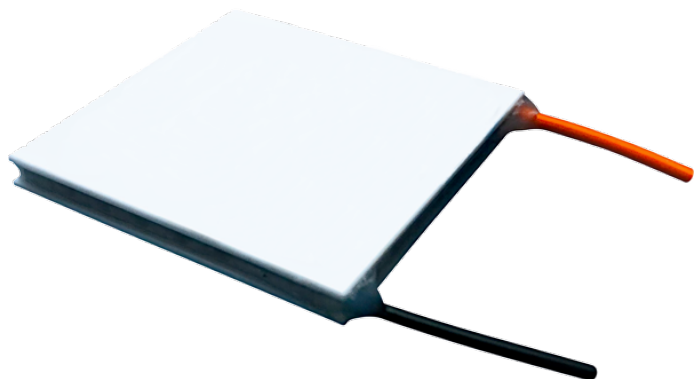
The ETX6-12-F1-4040-TA-RT-W6 high temperature, high-performance Thermoelectric Cooler uses Laird's enhanced Thermoelectric Module construction preventing performance degrading copper diffusion, which is common in standard grade Thermoelectric Coolers operating in high temperature environments exceeding 80 °C. It has a maximum Q_c of 58 Watts when $\Delta T = 0$ and a maximum ΔT of 83.2 °C at $Q_c = 0$.

Features

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

Applications

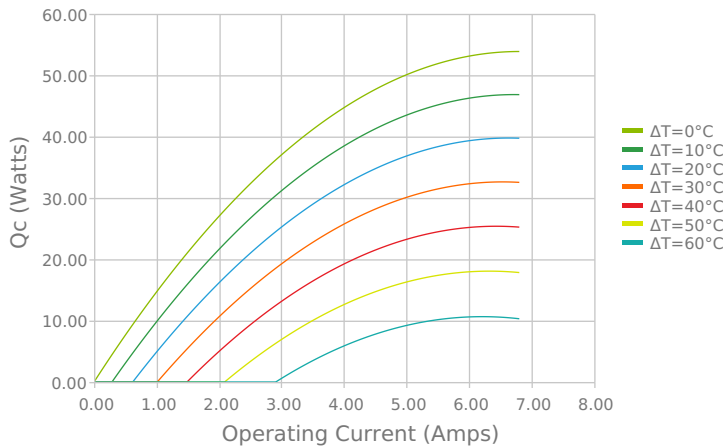
- Peltier Cooling for Refrigerated Centrifuges
- Peltier Cooling for Machine Vision
- Thermoelectric Cooling for CMOS Sensors
- Cooling Solutions for Autonomous Systems
- Peltier Cooling for Digital
- Light Processors



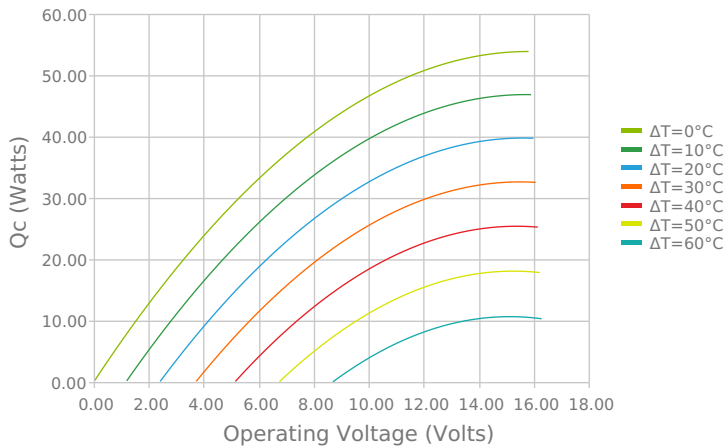
Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

ELECTRICAL AND THERMAL PERFORMANCE

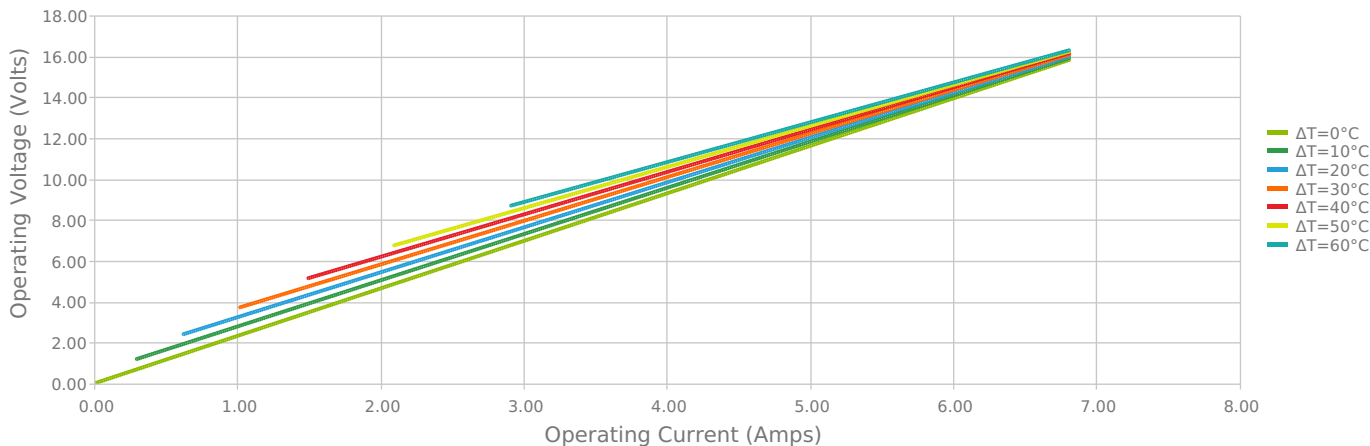
Heat Pumped at Cold Side
 $Thot = 85\text{ °C}$



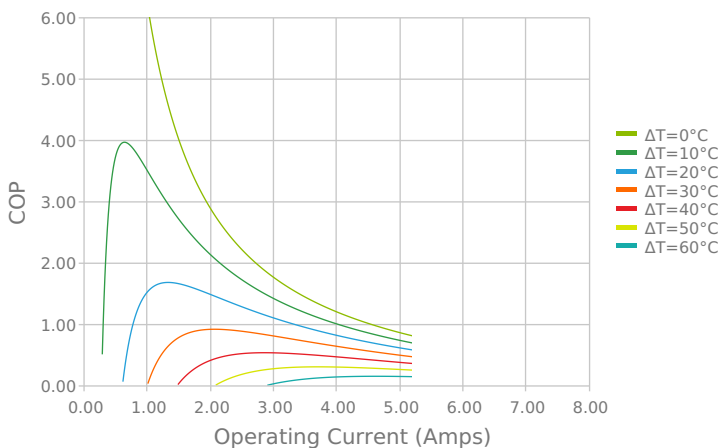
Heat Pumped at Cold Side
 $Thot = 85\text{ °C}$



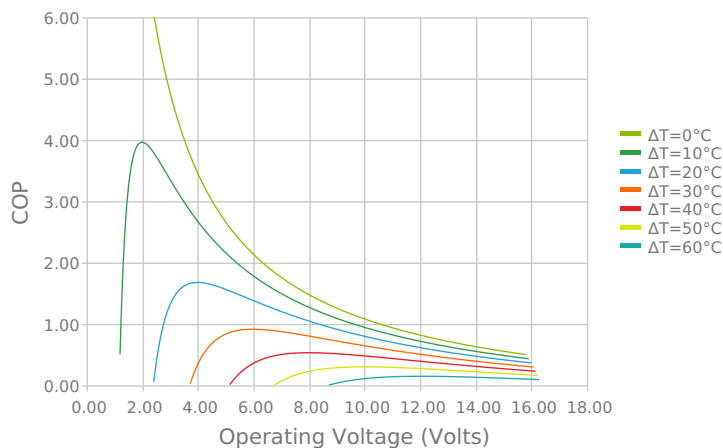
Current vs Voltage (I vs V)
 $Thot = 85\text{ °C}$



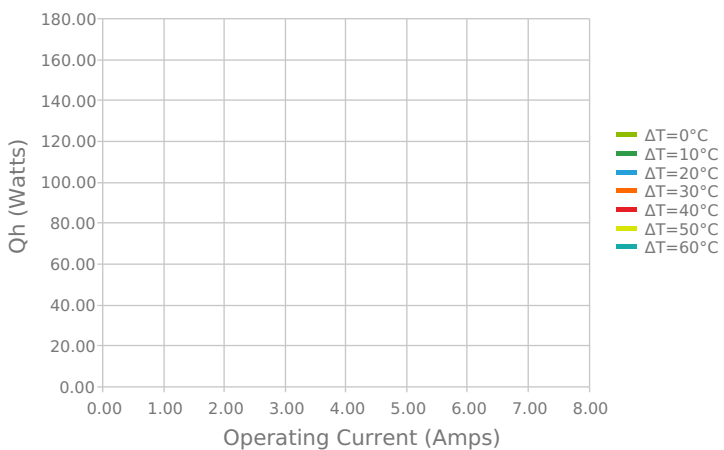
Coefficient of Performance (COP = Qc/Pin)
Thot = 85 °C



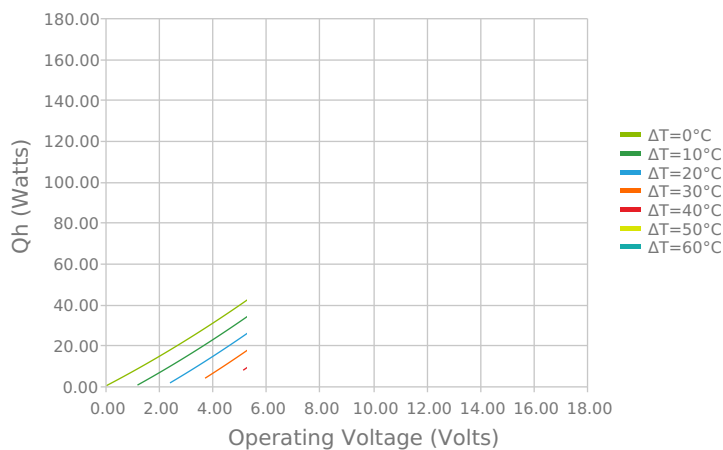
Coefficient of Performance (COP = Qc/Pin)
Thot = 85 °C



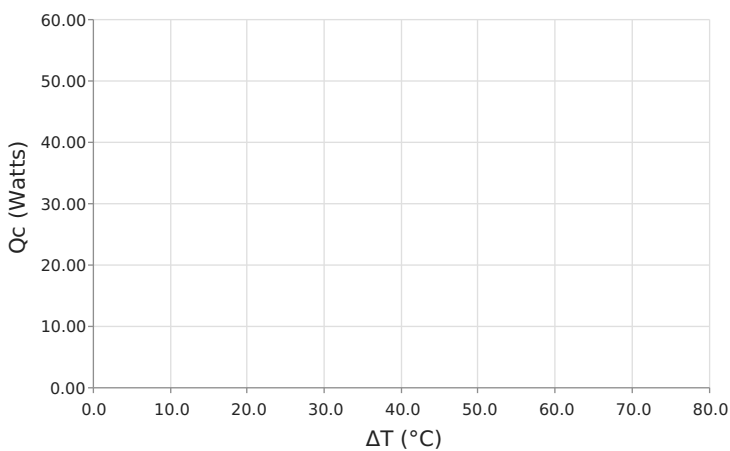
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 85 °C



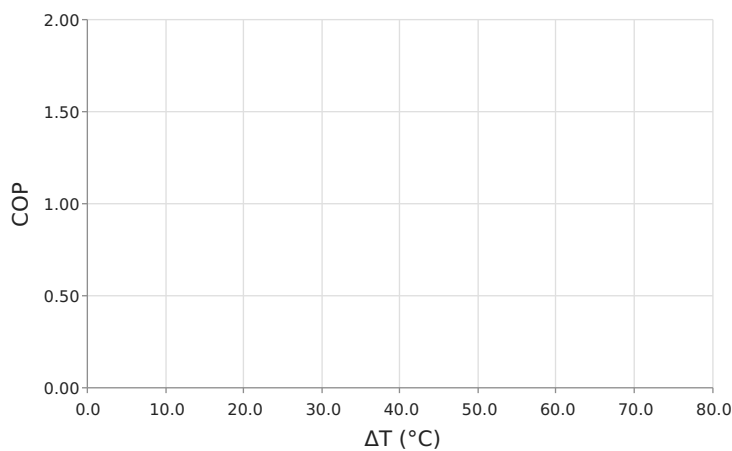
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 85 °C



Heat Pumped at Cold Side (Qc)
Thot = 85 °C | Current = 5.1 Amps



Coefficient of Performance (COP = Qc/Pin)
Thot = 85 °C | Current = 5.1 Amps



SPECIFICATIONS*

	50.0 °C	85.0 °C	110.0 °C
Hot Side Temperature			
Qcmax ($\Delta T = 0$)	58.0 Watts	62.7 Watts	64.7 Watts
ΔT_{max} ($Q_c = 0$)	83.2°C	95.3°C	102.0°C
I_{max} (I @ ΔT_{max})	5.9 Amps	5.7 Amps	5.6 Amps
V_{max} (V @ ΔT_{max})	16.6 Volts	19.1 Volts	20.8 Volts
Module Resistance	2.62 Ohms	3.05 Ohms	3.34 Ohms
Max Operating Temperature	150 °C		
Weight	22.0 gram(s)		

* Specifications reflect thermoelectric coefficients updated March 2020

FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
TA	3.810 ±0.254 mm 0.150 ± 0.010 in	0.025 mm / 0.025 mm 0.001 in / 0.001 in	Lapped	Lapped	152.4 mm 6.00 in

SEALING OPTIONS

Suffix	Sealant	Color	Temp Range	Description
RT	RTV	Translucent or White	-60 to 204°C	Non-corrosive, silicone adhesive

NOTES

1. Max operating temperature: 150°C
2. Do not exceed I_{max} or V_{max} when operating module
3. Reference assembly guidelines for recommended installation

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