

HiTemp ET Series Thermoelectric Cooler

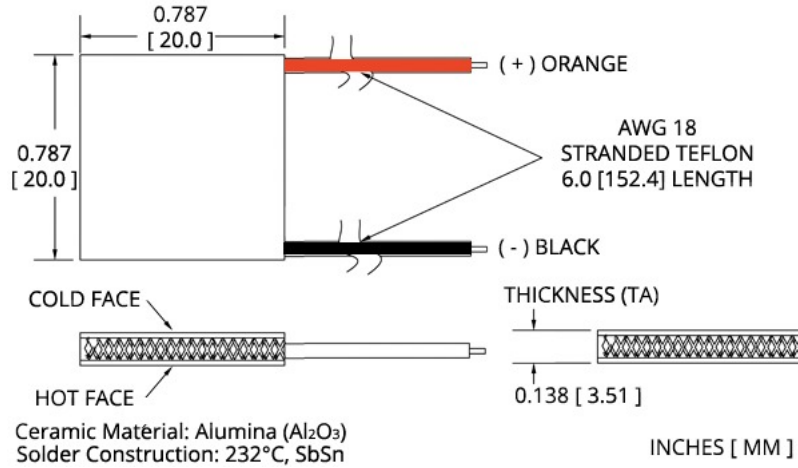
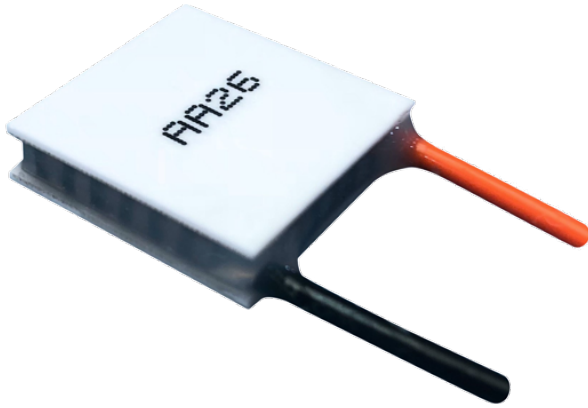
The ET7-3-F1-2020-TA-RT-W4.5 high temperature Thermoelectric Cooler uses Laird's enhanced Thermoelectric Module construction preventing performance degrading copper diffusion, which is common in standard grade TEMs operating in high temperature environments exceeding 80 °C. It has a maximum Qc of 18.5 Watts when $\Delta T = 0$ 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

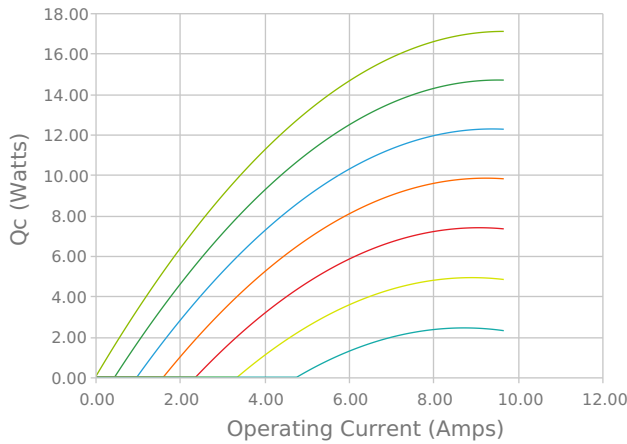
- Peltier Cooling for Refrigerated Centrifuges
- Peltier Cooling for Machine Vision
- Thermoelectric Cooling for CMOS Sensors
- Cooling Solutions for Autonomous Systems
- Peltier Cooling for Digital
- Light Processors



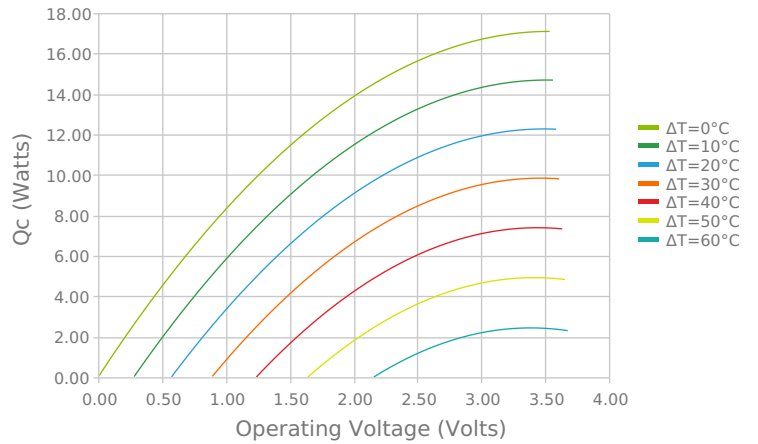
Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

ELECTRICAL AND THERMAL PERFORMANCE

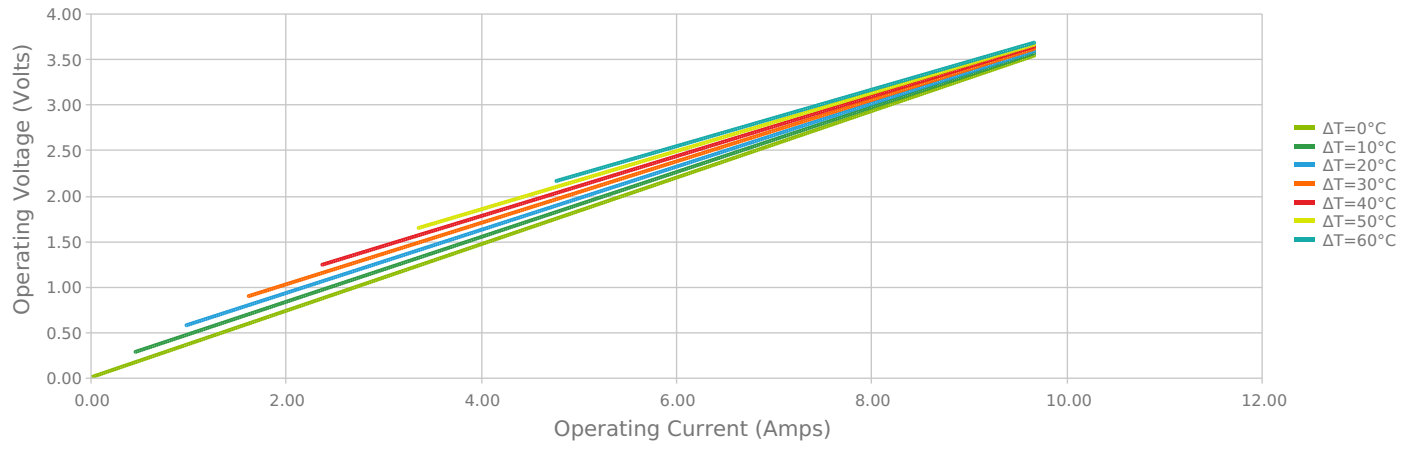
Heat Pumped at Cold Side
 Thot = 85 °C



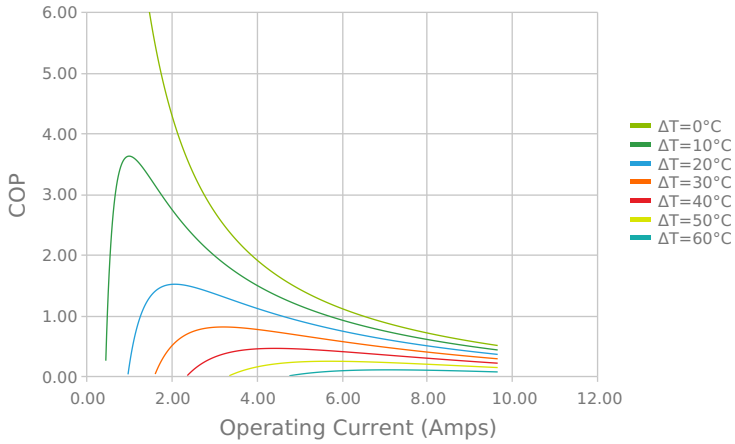
Heat Pumped at Cold Side
 Thot = 85 °C



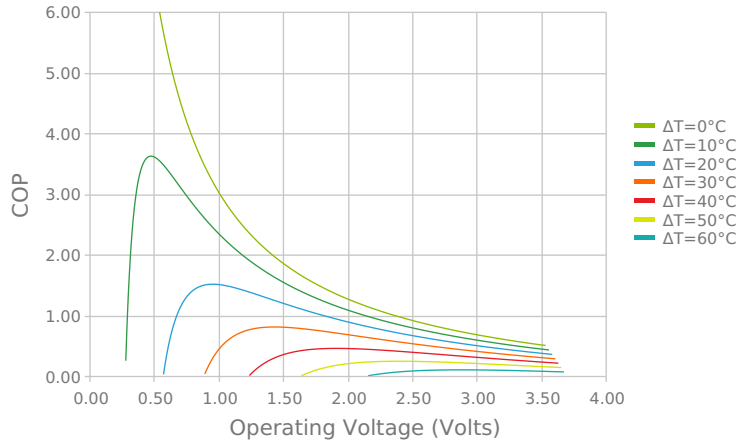
Current vs Voltage (I vs V)
Thot = 85 °C



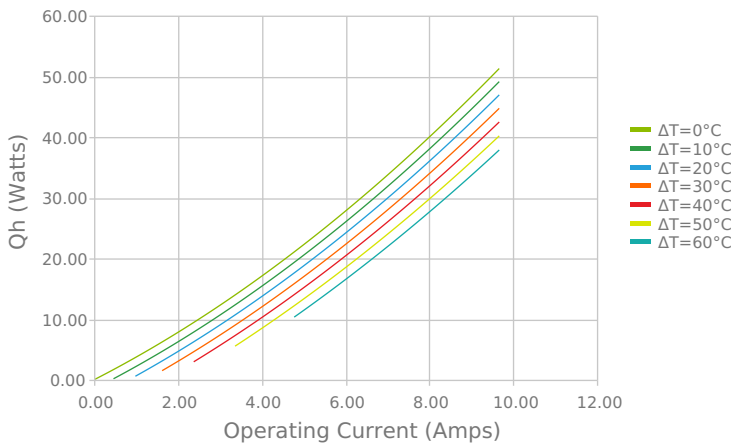
Coefficient of Performance (COP = Qc/Pin)
Thot = 85 °C



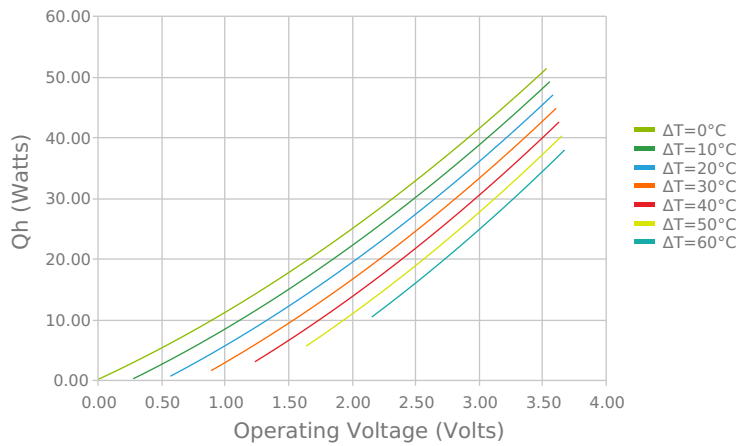
Coefficient of Performance (COP = Qc/Pin)
Thot = 85 °C



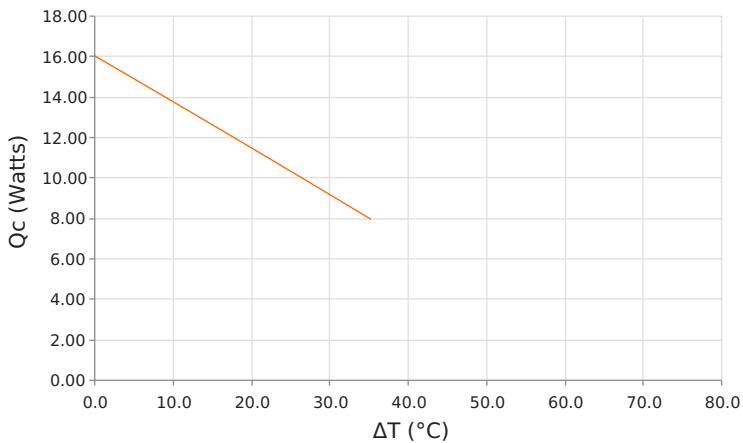
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 85 °C



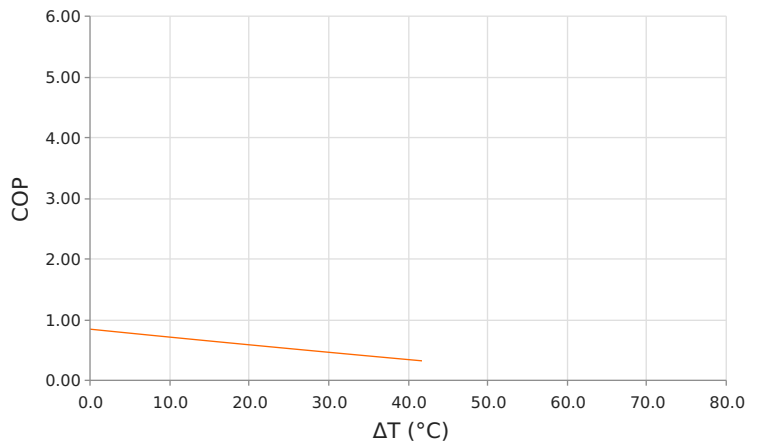
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 85 °C



Heat Pumped at Cold Side (Qc)
Thot = 85 °C | Current = 7.3 Amps



Coefficient of Performance (COP = Qc/Pin)
Thot = 85 °C | Current = 7.3 Amps



SPECIFICATIONS*

	50.0 °C	85.0 °C	110.0 °C
Hot Side Temperature			
Qcmax ($\Delta T = 0$)	18.5 Watts	20.3 Watts	21.2 Watts
ΔT_{max} ($Q_c = 0$)	77.9°C	89.3°C	96.2°C
I_{max} (I @ ΔT_{max})	8.4 Amps	8.2 Amps	8.1 Amps
V_{max} (V @ ΔT_{max})	3.7 Volts	4.3 Volts	4.7 Volts
Module Resistance	0.41 Ohms	0.48 Ohms	0.52 Ohms
Max Operating Temperature	150 °C		
Weight	7.0 gram(s)		

* Specifications reflect thermoelectric coefficients updated March 2020

FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
11	3.510 ±0.051 mm 0.138 ± 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 I_{max} or V_{max} when operating module
3. Reference assembly guidelines for recommended installation

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