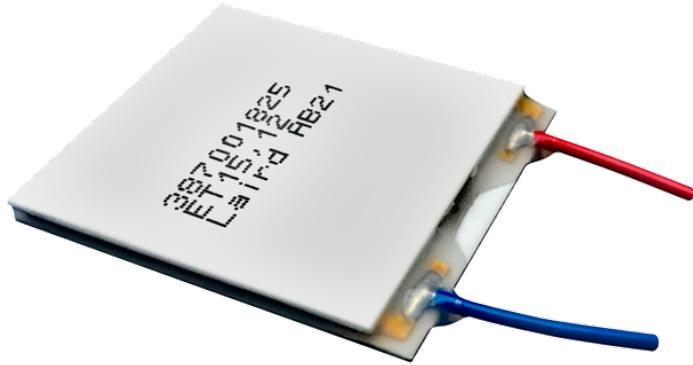


HiTemp ET Series Thermoelectric Cooler

The ET15-12-F2-4040-TA-RT-W6 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 129.3 Watts when ΔT = 0 and a maximum ΔT of 77.9 °C at Qc = 0.

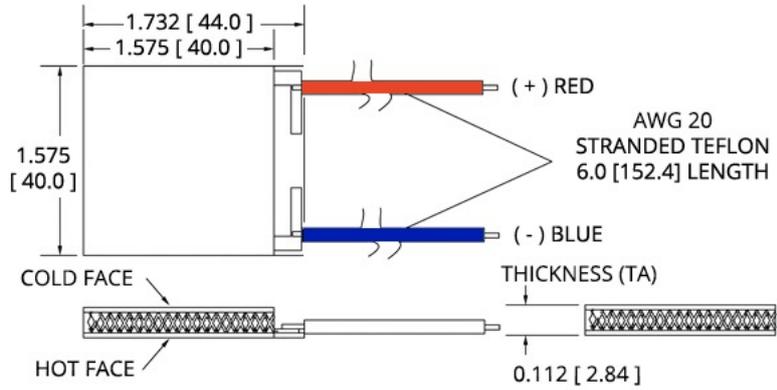


Features

- 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



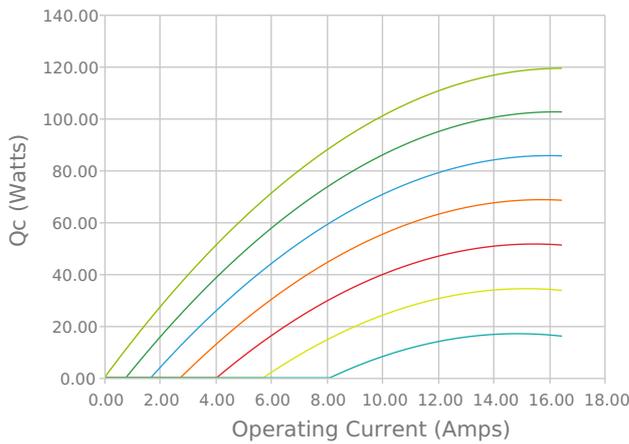
Ceramic Material: Alumina (Al₂O₃)
 Solder Construction: 232°C, SbSn

INCHES [MM]

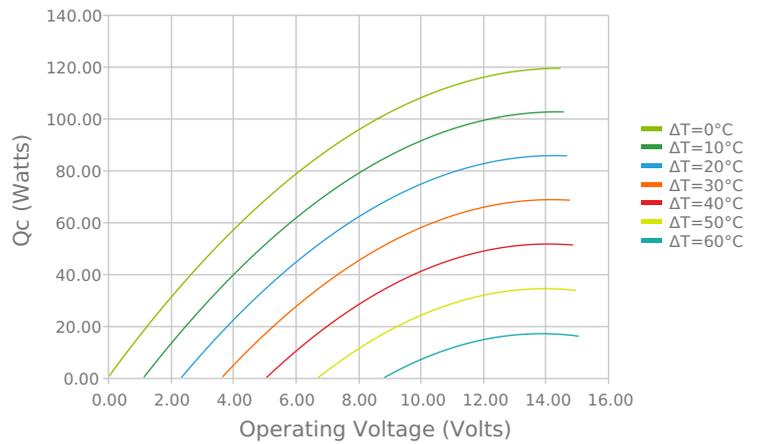
Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

ELECTRICAL AND THERMAL PERFORMANCE

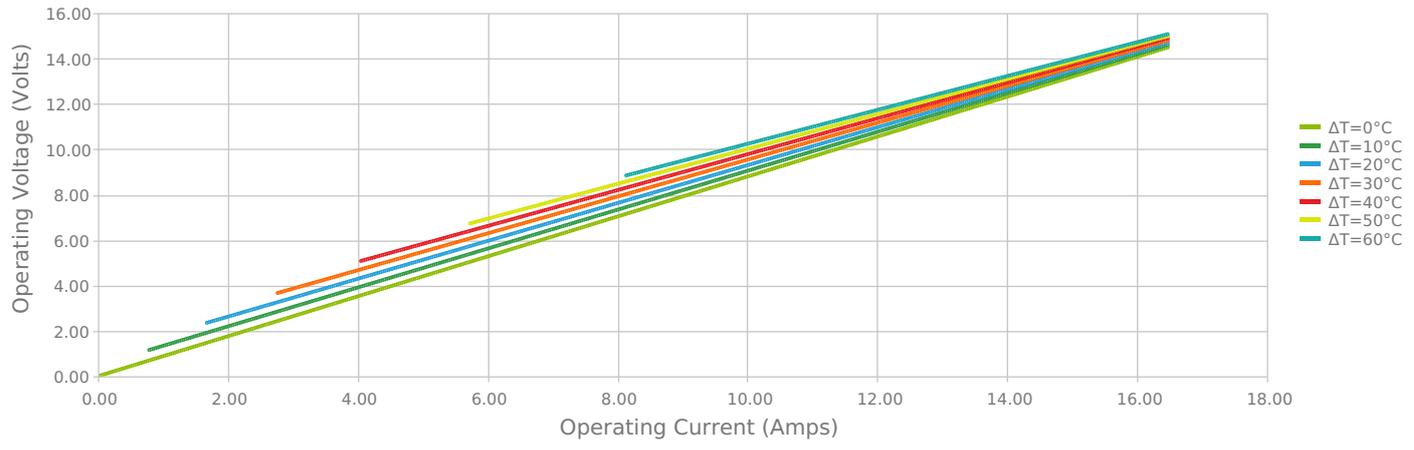
Heat Pumped at Cold Side
 T_{hot} = 85 °C



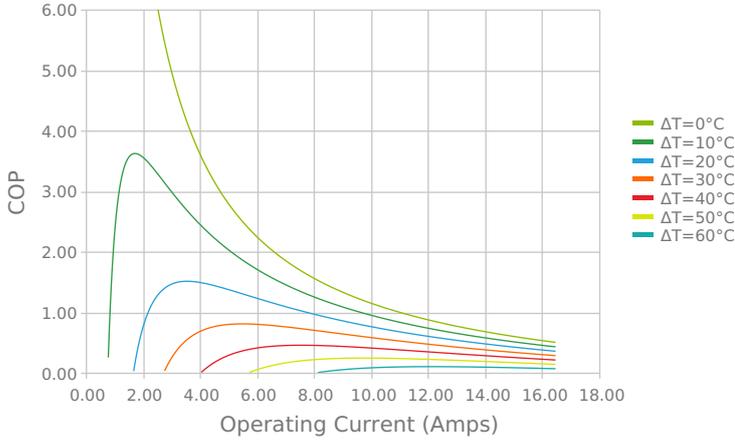
Heat Pumped at Cold Side
 T_{hot} = 85 °C



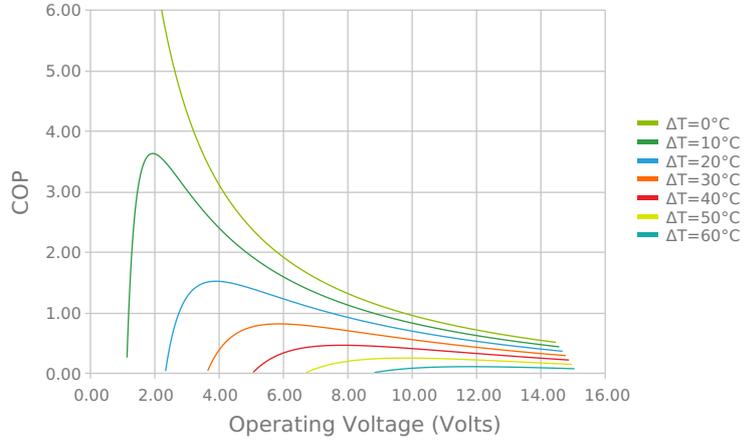
Current vs Voltage (I vs V)
Thot = 85 °C



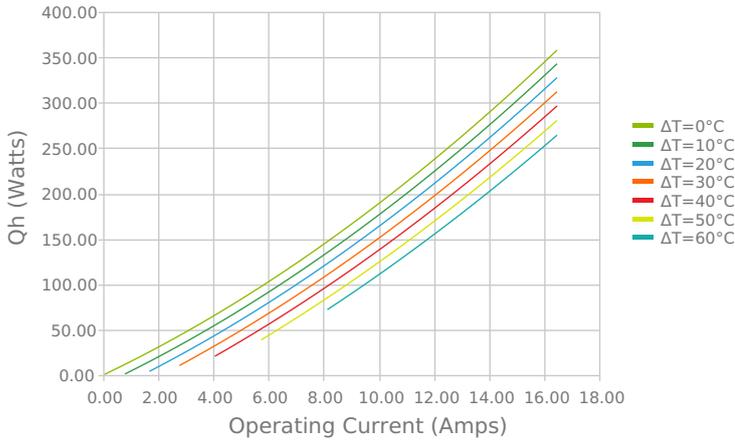
Coefficient of Performance (COP = Qc/Pin)
 Thot = 85 °C



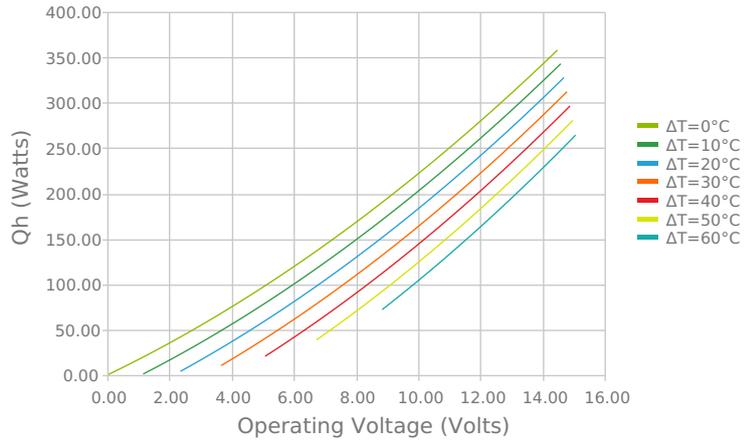
Coefficient of Performance (COP = Qc/Pin)
 Thot = 85 °C



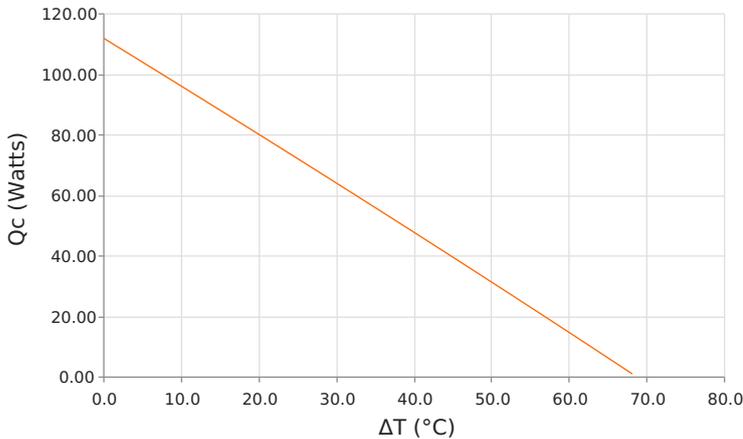
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 85 °C



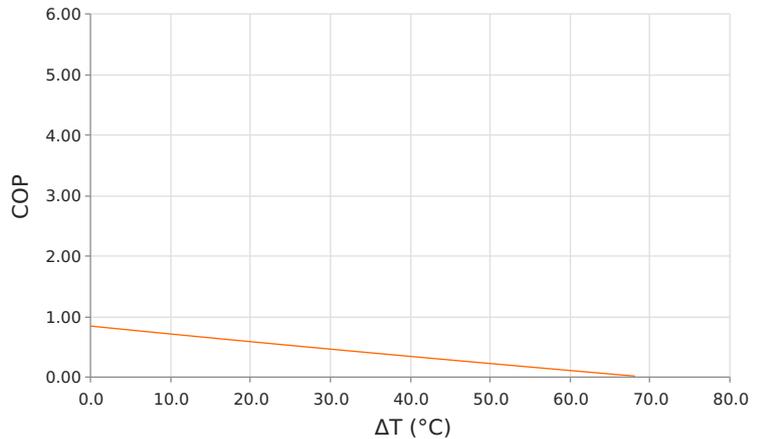
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 85 °C



Heat Pumped at Cold Side (Qc)
 Thot = 85 °C | Current = 12.4 Amps



Coefficient of Performance (COP = Qc/Pin)
 Thot = 85 °C | Current = 12.4 Amps



SPECIFICATIONS*

Hot Side Temperature	50.0 °C	85.0 °C	110.0 °C
Qcmax ($\Delta T = 0$)	129.3 Watts	141.8 Watts	148.1 Watts
ΔT_{max} ($Q_c = 0$)	77.9°C	89.3°C	96.2°C
I_{max} (I @ ΔT_{max})	14.3 Amps	14.0 Amps	13.8 Amps
V_{max} (V @ ΔT_{max})	15.3 Volts	17.5 Volts	19.1 Volts
Module Resistance	0.98 Ohms	1.14 Ohms	1.25 Ohms
Max Operating Temperature	150 °C		
Weight	20.0 gram(s)		

* Specifications reflect thermoelectric coefficients updated March 2020

FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
11	2.845 ±0.051 mm 0.112 ± 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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Date: 04/24/2020