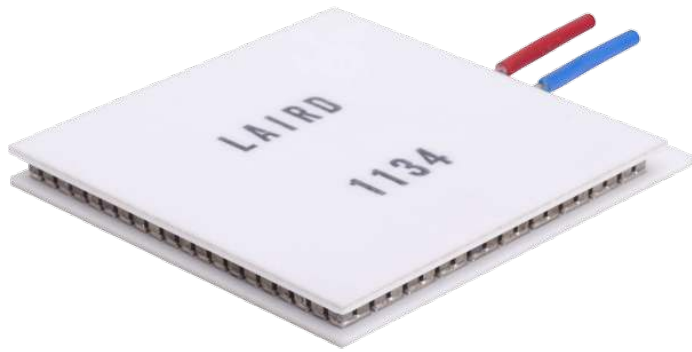


UltraTEC™ UT Series Thermoelectric Cooler

The UT8-200-F2-4040-TA-RT-WCON is a high heat flux density thermoelectric cooler. The thermoelectric module is assembled with a large number of semiconducting thermoelectric couples to achieve a higher heat pumping capacity than standard single stage thermoelectric coolers. It has a maximum Q_c of 108.4 Watts when $\Delta T = 0$ and a maximum ΔT of 68.9 °C at $Q_c = 0$.

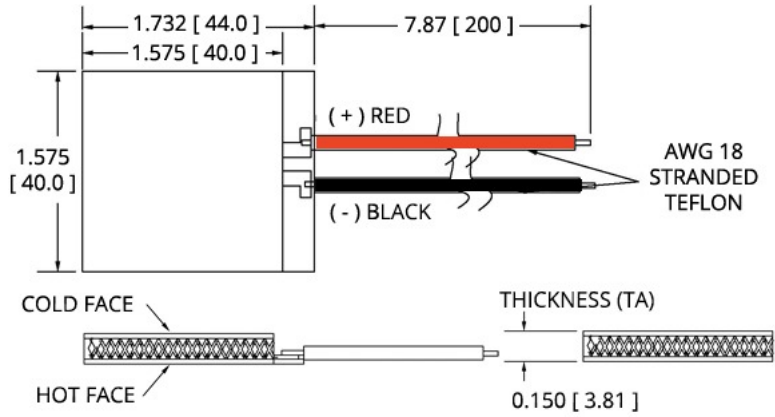


Features

- High heat pump density
- Precise temperature control
- Reliable solid-state operation
- No sound or vibration
- DC operation
- RoHS-compliant

Applications

- Thermoelectric Coolers and Assemblies for Medical Applications
- Thermoelectric Coolers for Handheld Cosmetic Lasers
- Industrial Laser Cooling
- Peltier Cooling for Digital Light Processors



Ceramic Material: Alumina (Al_2O_3)

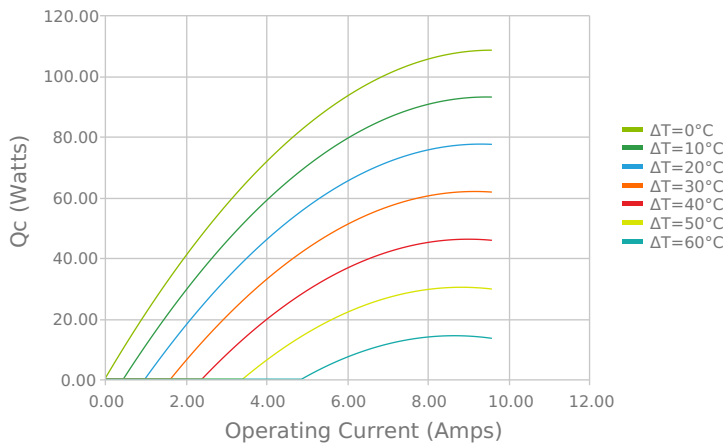
Solder Construction: 138°C, Bismuth Tin (BiSn)

INCHES [MM]

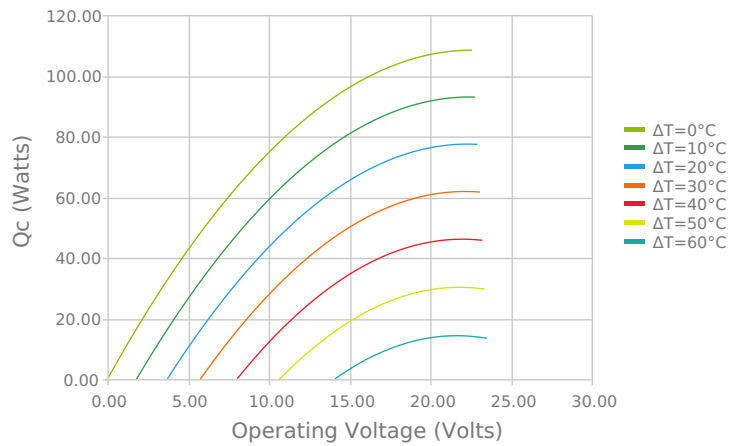
Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

ELECTRICAL AND THERMAL PERFORMANCE

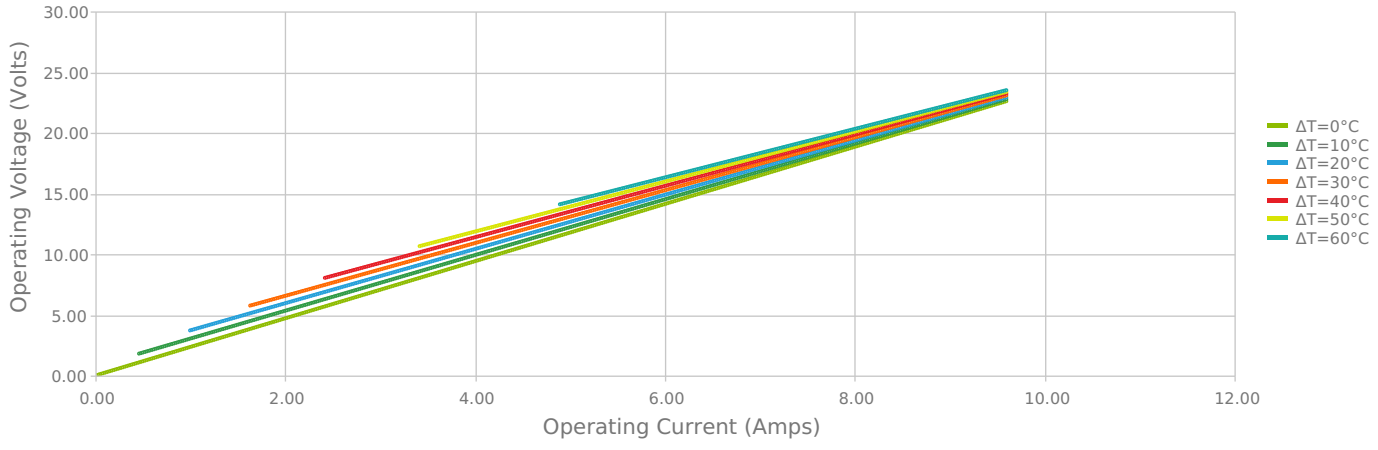
Heat Pumped at Cold Side
 $T_{hot} = 27\text{ °C}$



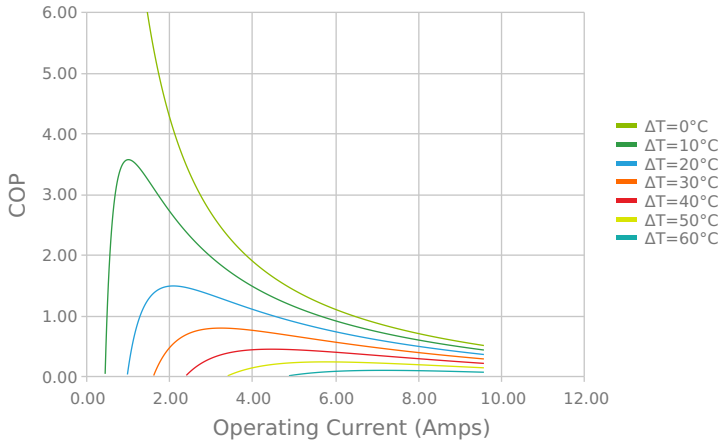
Heat Pumped at Cold Side
 $T_{hot} = 27\text{ °C}$



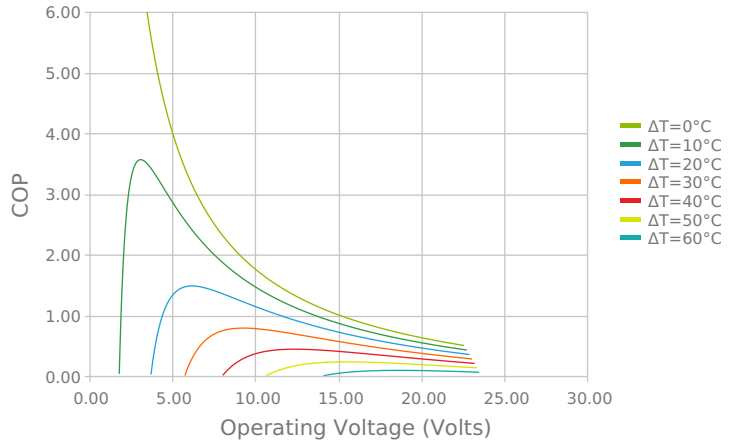
Current vs Voltage (I vs V)
Thot = 27 °C



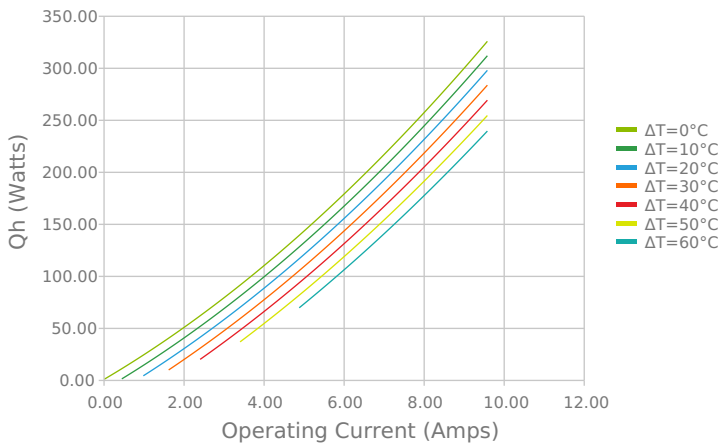
Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C



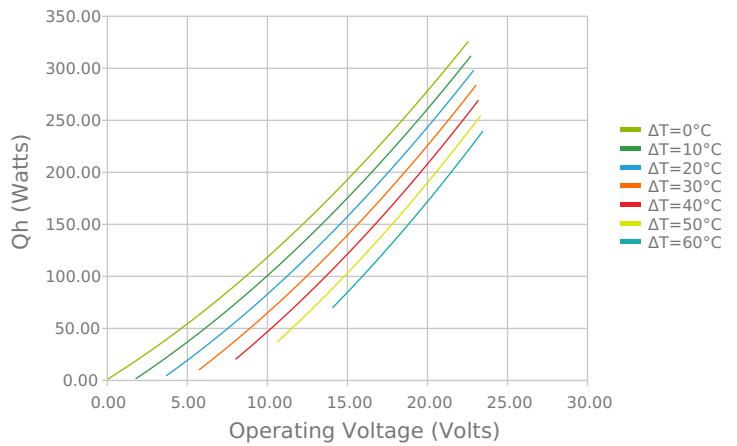
Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C



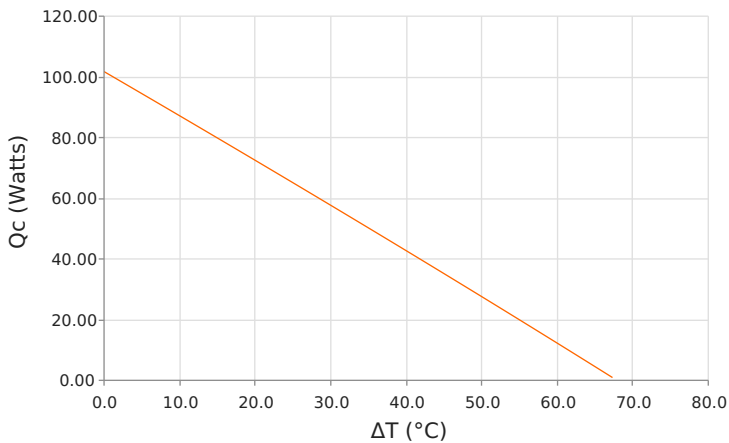
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 27 °C



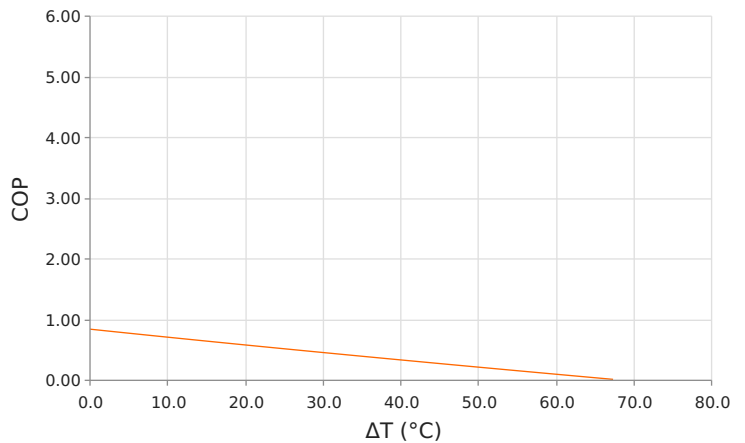
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 27 °C



Heat Pumped at Cold Side (Qc)
 Thot = 27 °C | Current = 7.2 Amps



Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C | Current = 7.2 Amps



SPECIFICATIONS*

Hot Side Temperature	27.0 °C	35.0 °C	50.0 °C
Qcmax ($\Delta T = 0$)	108.4 Watts	111.7 Watts	117.5 Watts
ΔT_{max} ($Q_c = 0$)	68.9°C	71.8°C	77.0°C
I_{max} (I @ ΔT_{max})	8.5 Amps	8.5 Amps	8.4 Amps
V_{max} (V @ ΔT_{max})	21.5 Volts	22.3 Volts	23.8 Volts
Module Resistance	2.35 Ohms	2.45 Ohms	2.64 Ohms
Max Operating Temperature	80 °C		
Weight	36.0 gram(s)		

* Specifications reflect thermoelectric coefficients updated March 2020

FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
TA	3.810 ±0.025 mm 0.150 ± 0.001 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	White	-60 to 204°C	Non-corrosive, silicone adhesive

NOTES

1. Max operating temperature: 80°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