

UltraTEC™ UTX Series Thermoelectric Cooler

The UTX8-288-F2-5252-TA-W6 is a high-performance thermoelectric cooler that is assembled with advanced thermoelectric materials and can boost cooling capacity by up to 10%. The UltraTEC UTX Series features a higher thermal insulating barrier when compared to standard materials creating a maximum temperature differential (ΔT) of 71.7 °C at $Q_c = 0$. It has a maximum Q_c of 167.6 Watts when $\Delta T = 0$.

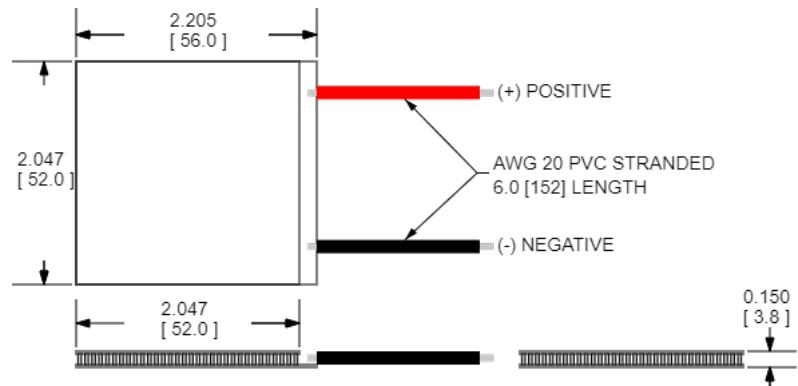


Features

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

Applications

- Spot Cooling for Industrial Lasers & Optics
- Thermoelectric Cooling for Projection Lasers

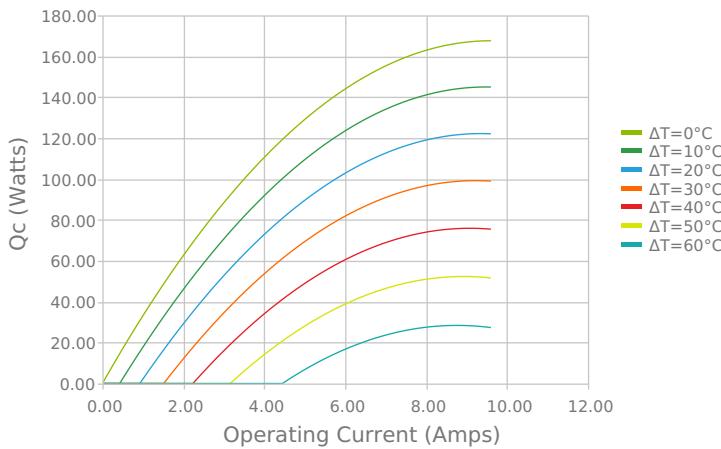


CERAMIC MATERIAL: Al_2O_3
SOLDER CONSTRUCTION: 138°C, BiSn

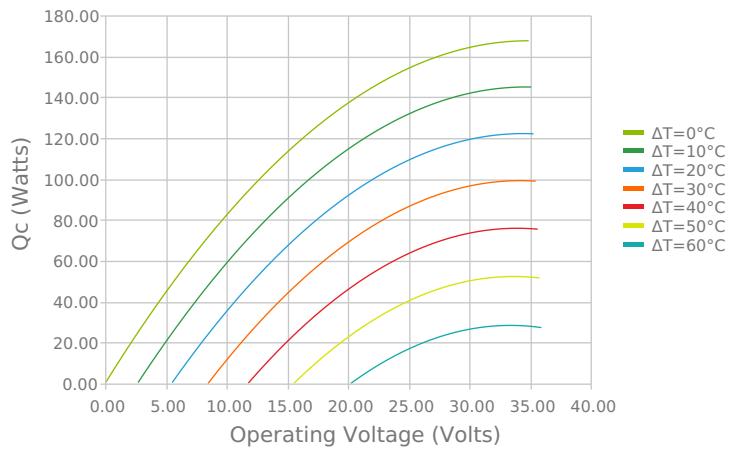
INCHES [MM]

ELECTRICAL AND THERMAL PERFORMANCE

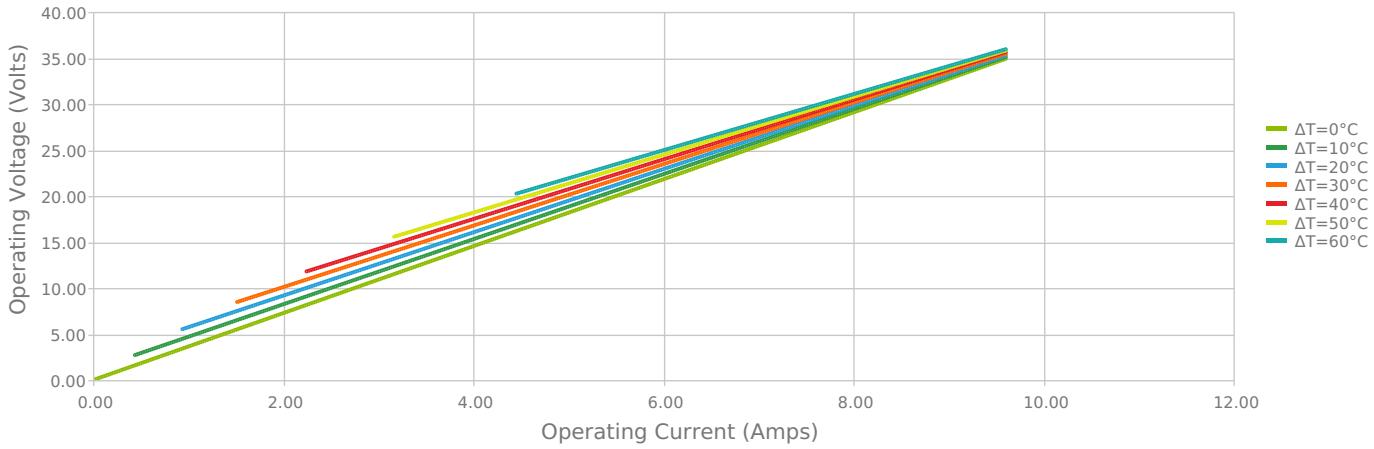
Heat Pumped at Cold Side
 $\text{Thot} = 27^\circ\text{C}$



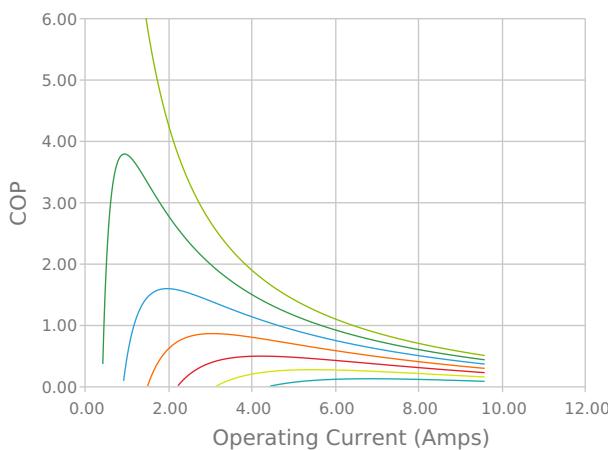
Heat Pumped at Cold Side
 $\text{Thot} = 27^\circ\text{C}$



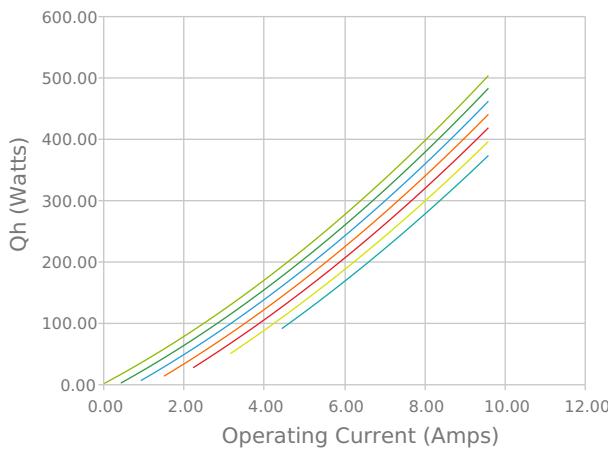
Current vs Voltage (I vs V)
 $\text{Thot} = 27^\circ\text{C}$



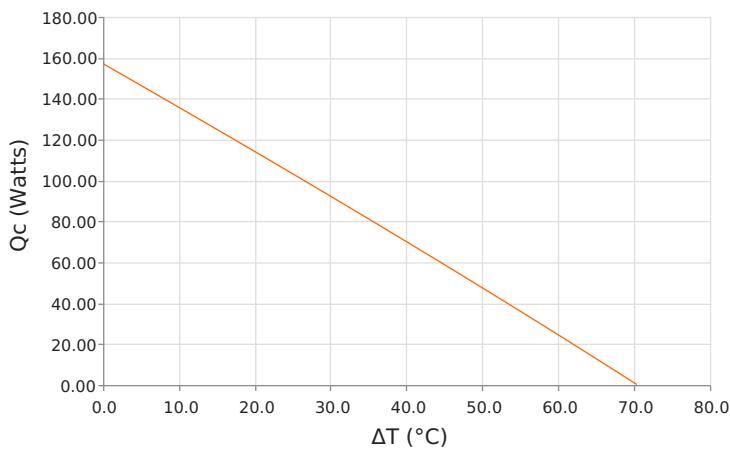
Coefficient of Performance (COP = Q_c/P_{in})
Thot = 27 °C



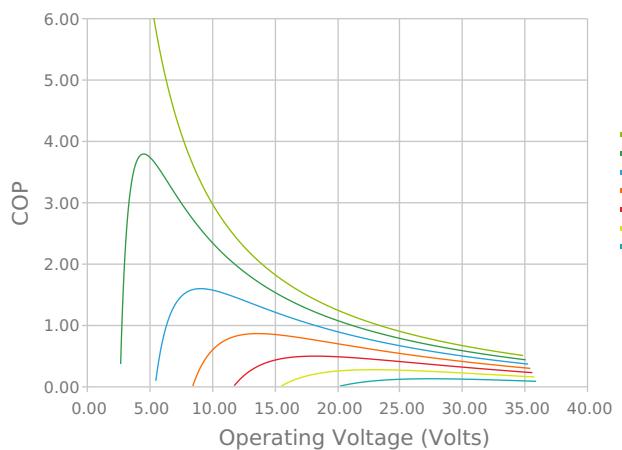
Total Heat Dissipated at Hot Side ($Q_h = Q_c + P_{in}$)
Thot = 27 °C



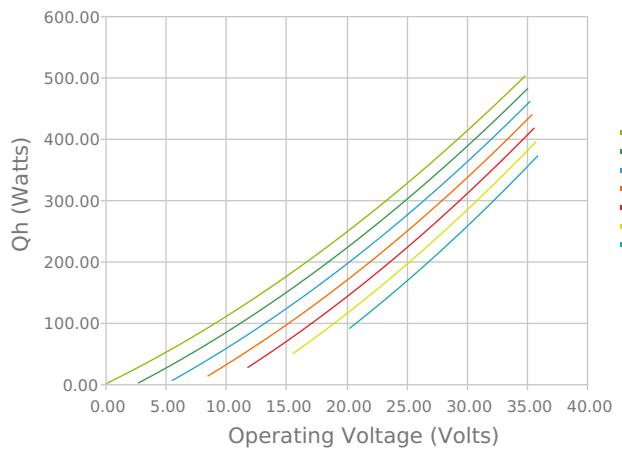
Heat Pumped at Cold Side (Q_c)
Thot = 27 °C | Current = 7.2 Amps



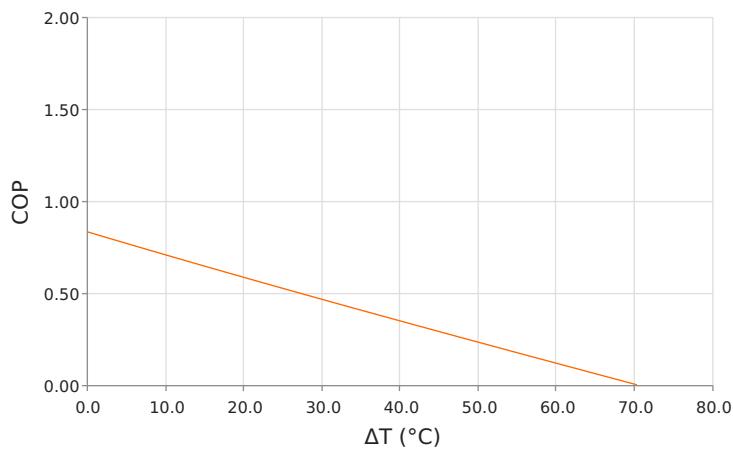
Coefficient of Performance (COP = Q_c/P_{in})
Thot = 27 °C



Total Heat Dissipated at Hot Side ($Q_h = Q_c + P_{in}$)
Thot = 27 °C



Coefficient of Performance (COP = Q_c/P_{in})
Thot = 27 °C | Current = 7.2 Amps



SPECIFICATIONS*

	27.0 °C	35.0 °C	50.0 °C
Qcmax (ΔT = 0)	167.6 Watts	172.2 Watts	180.3 Watts
ΔTmax (Qc = 0)	71.7°C	74.8°C	80.4°C
I_{max} (I @ ΔT_{max})	8.6 Amps	8.5 Amps	8.4 Amps
V_{max} (V @ ΔT_{max})	33.0 Volts	34.3 Volts	36.7 Volts
Module Resistance	3.63 Ohms	3.79 Ohms	4.09 Ohms
Max Operating Temperature	80 °C		
Weight	52.0 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 ± 0.0010 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
	None			No sealing specified

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
4. Recommended to be used with a liquid heat exchanger on the hot side

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