

### UltraTEC™ UTX Series Thermoelectric Cooler

The UTX15-288-F2-5252-TB-RT-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 ( $\Delta T$ ) of 71.7 °C at  $Q_c = 0$ . It has a maximum  $Q_c$  of 298.9 Watts when  $\Delta T = 0$ .

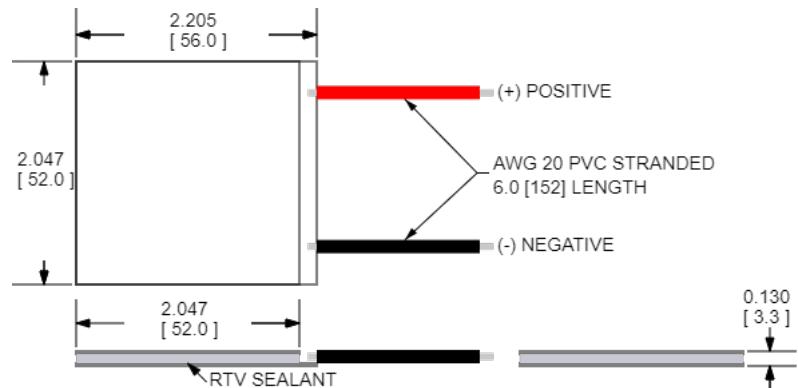


### Features

- 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:  $\text{Al}_2\text{O}_3$

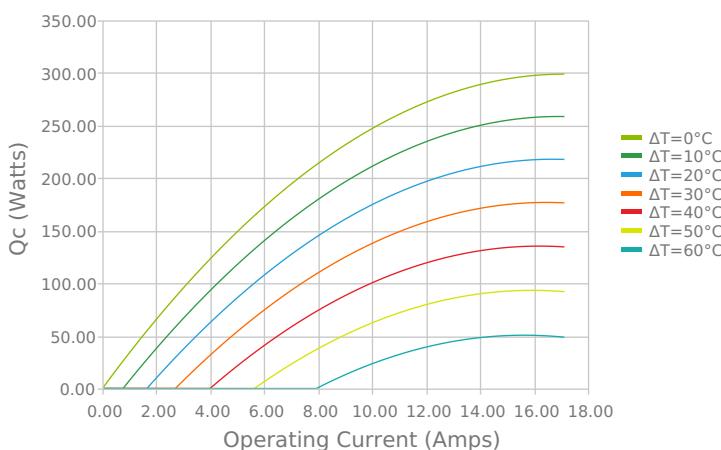
SOLDER CONSTRUCTION: 138°C, BiSn

INCHES [ MM ]

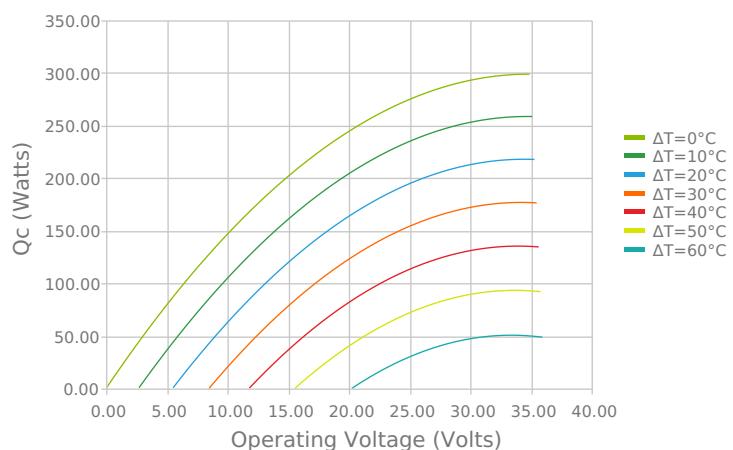
Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

## ELECTRICAL AND THERMAL PERFORMANCE

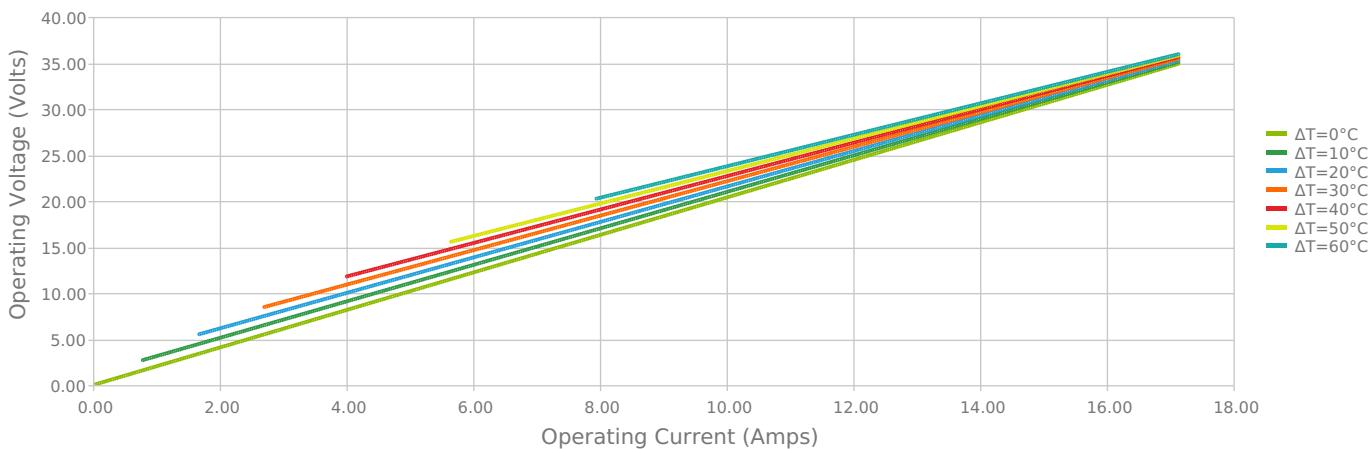
Heat Pumped at Cold Side  
 $T_{\text{hot}} = 27^\circ\text{C}$

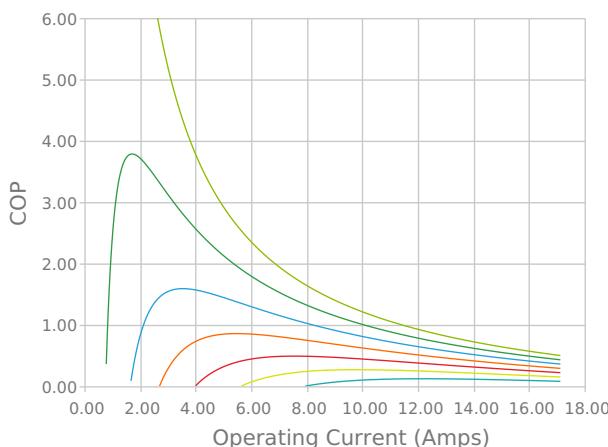
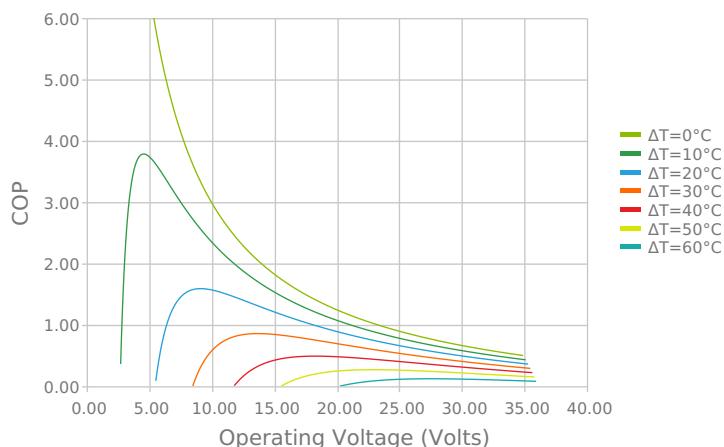
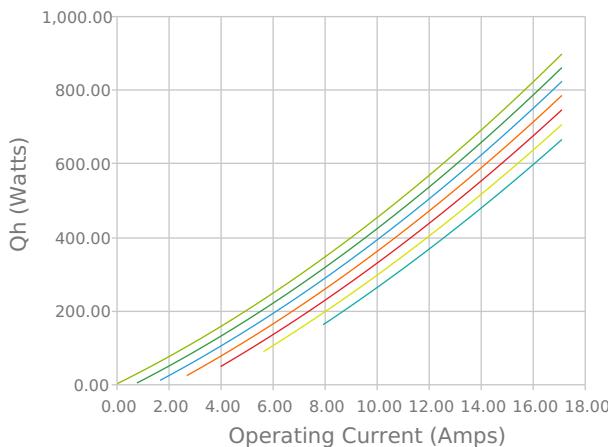
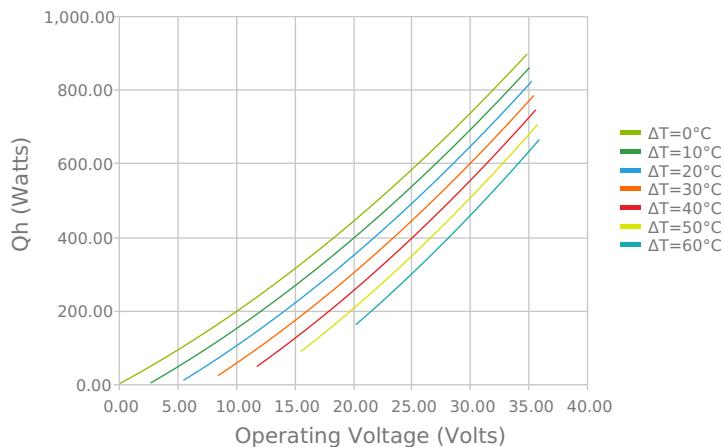
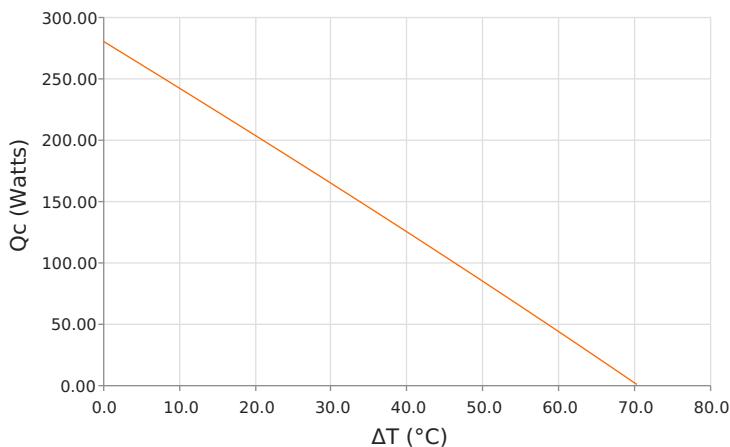
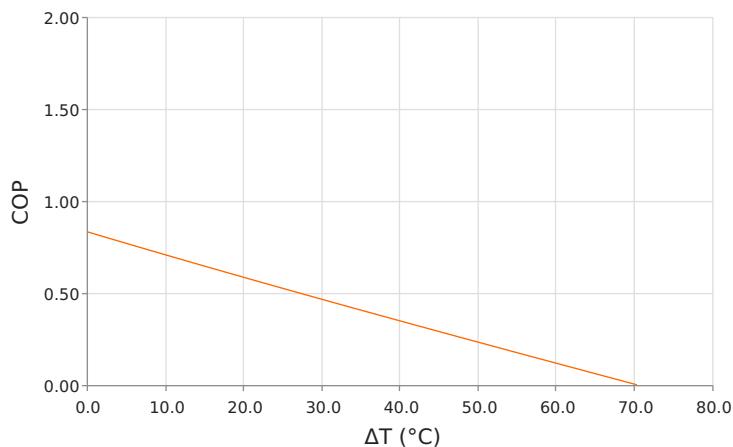


Heat Pumped at Cold Side  
 $T_{\text{hot}} = 27^\circ\text{C}$



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



Coefficient of Performance (COP =  $Q_c/P_{in}$ )  
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 Total Heat Dissipated at Hot Side ( $Q_h = Q_c + P_{in}$ )  
 $T_{hot} = 27^\circ\text{C}$ 

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 $T_{hot} = 27^\circ\text{C}$ 

 Heat Pumped at Cold Side ( $Q_c$ )  
 $T_{hot} = 27^\circ\text{C}$  | Current = 12.8 Amps

 Coefficient of Performance (COP =  $Q_c/P_{in}$ )  
 $T_{hot} = 27^\circ\text{C}$  | Current = 12.8 Amps


## SPECIFICATIONS\*

	27.0 °C	35.0 °C	50.0 °C
<b>Qcmax (ΔT = 0)</b>	298.9 Watts	307.2 Watts	321.6 Watts
<b>ΔTmax (Qc = 0)</b>	71.7°C	74.8°C	80.4°C
<b>I<sub>max</sub> (I @ ΔT<sub>max</sub>)</b>	15.3 Amps	15.2 Amps	14.9 Amps
<b>V<sub>max</sub> (V @ ΔT<sub>max</sub>)</b>	33.0 Volts	34.3 Volts	36.7 Volts
<b>Module Resistance</b>	2.04 Ohms	2.13 Ohms	2.29 Ohms
<b>Max Operating Temperature</b>	80 °C		
<b>Weight</b>	53.0 gram(s)		

\* Specifications reflect thermoelectric coefficients updated March 2020

## FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
TB	3.300 ± 0.013 mm 0.130 ± 0.0005 in	0.013 mm / 0.013 mm 0.0005 in / 0.0005 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: 80°C
2. Do not exceed I<sub>max</sub> or V<sub>max</sub> 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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