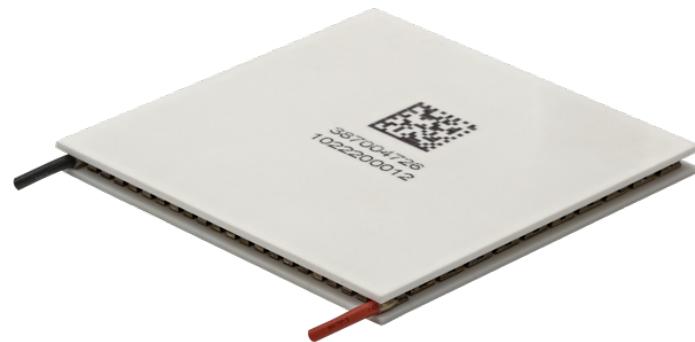


### UltraTEC™ UTX Series Thermoelectric Cooler

The UTX8-24-F1-5555-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 ( $\Delta T$ ) of 71.7 °C at  $Q_c = 0$ . It has a maximum  $Q_c$  of 140.2 Watts when  $\Delta T = 0$ .

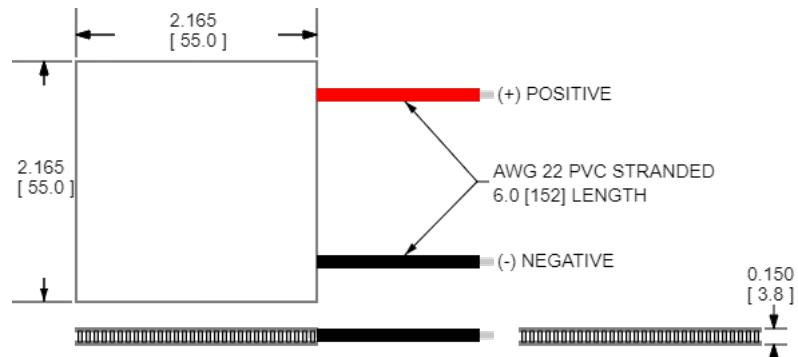


### Features

- 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

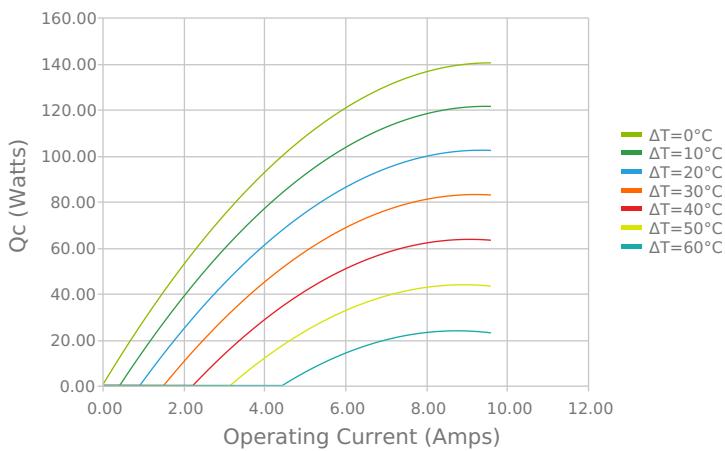


CERAMIC MATERIAL:  $\text{Al}_2\text{O}_3$   
SOLDER CONSTRUCTION: 138°C, BiSn

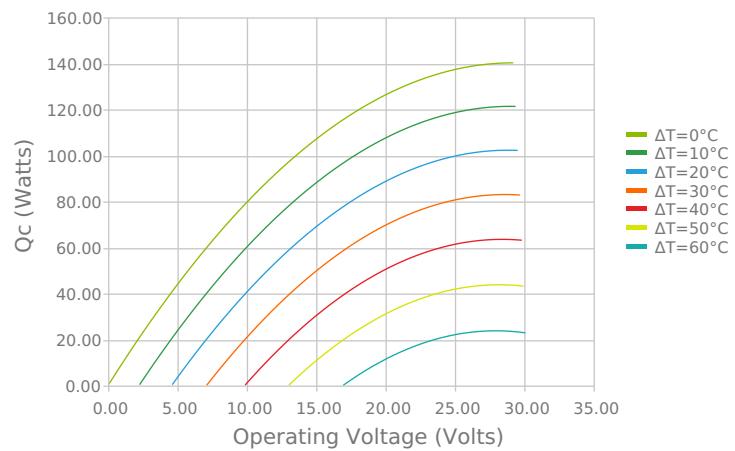
INCHES [ MM ]

## ELECTRICAL AND THERMAL PERFORMANCE

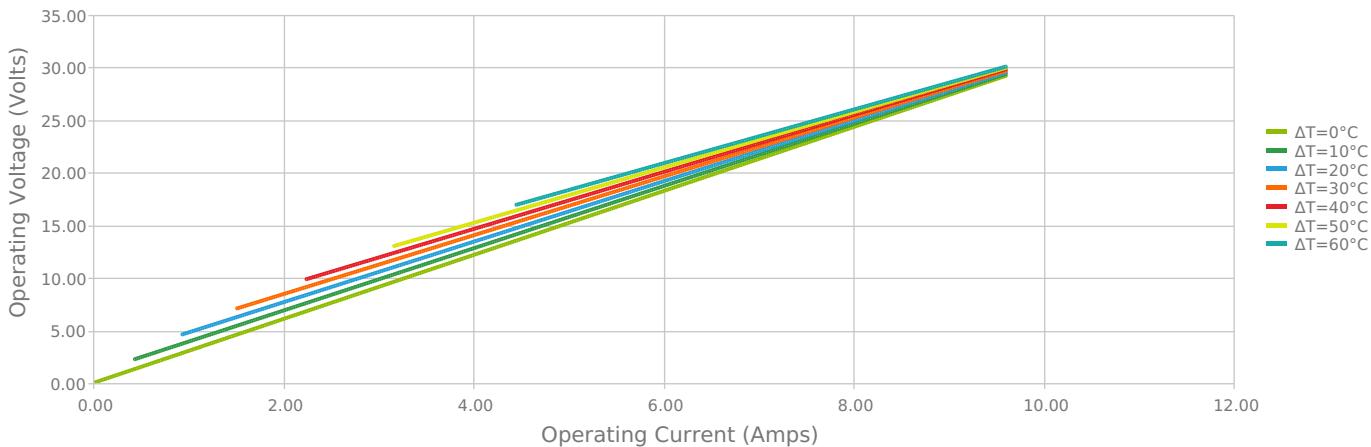
Heat Pumped at Cold Side  
Thot = 27 °C



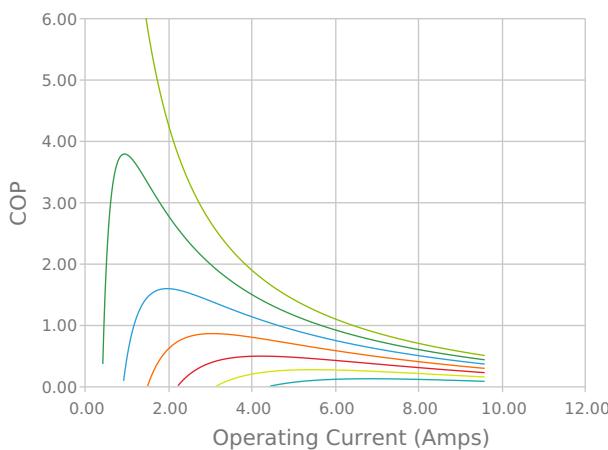
Heat Pumped at Cold Side  
Thot = 27 °C



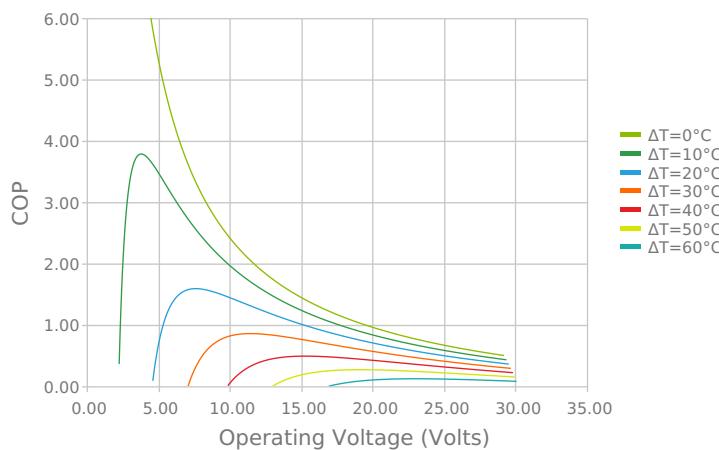
Current vs Voltage (I vs V)  
Thot = 27 °C



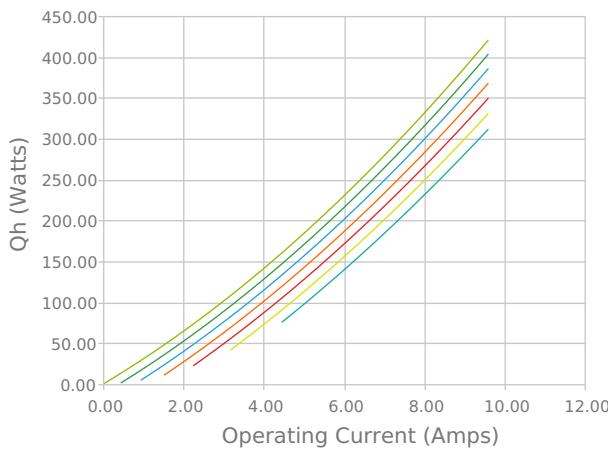
Coefficient of Performance (COP =  $Q_c/P_{in}$ )  
 $T_{hot} = 27^\circ C$



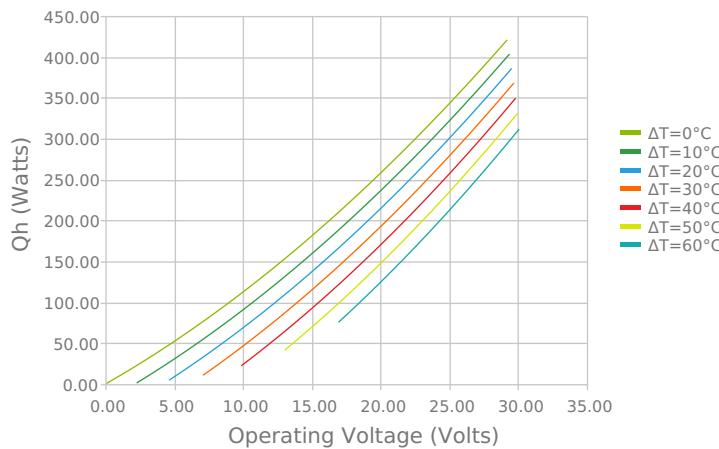
Coefficient of Performance (COP =  $Q_c/P_{in}$ )  
 $T_{hot} = 27^\circ C$



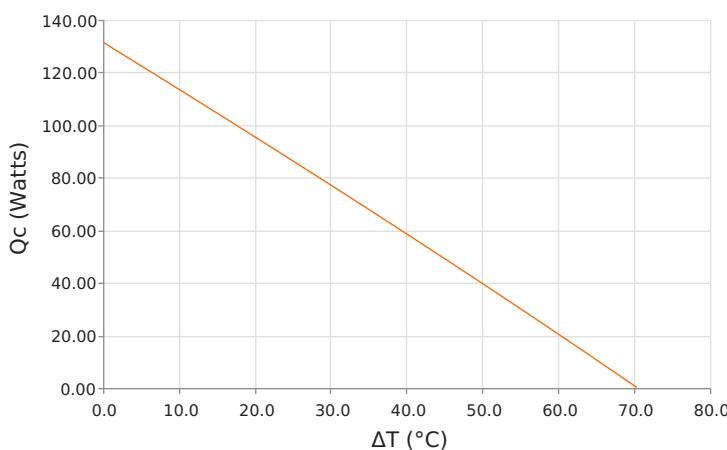
Total Heat Dissipated at Hot Side ( $Q_h = Q_c + P_{in}$ )  
 $T_{hot} = 27^\circ C$



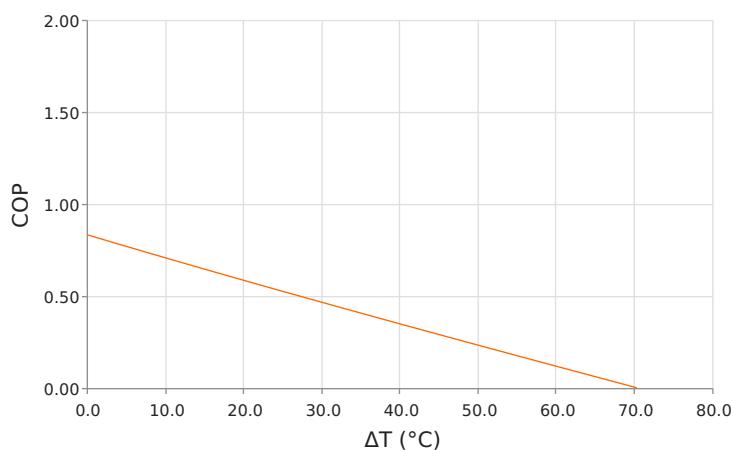
Total Heat Dissipated at Hot Side ( $Q_h = Q_c + P_{in}$ )  
 $T_{hot} = 27^\circ C$



Heat Pumped at Cold Side ( $Q_c$ )  
 $T_{hot} = 27^\circ C$  | Current = 7.2 Amps



Coefficient of Performance (COP =  $Q_c/P_{in}$ )  
 $T_{hot} = 27^\circ C$  | Current = 7.2 Amps



## SPECIFICATIONS\*

	27.0 °C	35.0 °C	50.0 °C
<b>Qcmax (ΔT = 0)</b>	140.2 Watts	144.1 Watts	150.9 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>	8.6 Amps	8.5 Amps	8.4 Amps
<b>V<sub>max</sub> (V @ ΔT<sub>max</sub>)</b>	27.6 Volts	28.7 Volts	30.7 Volts
<b>Module Resistance</b>	3.04 Ohms	3.17 Ohms	3.42 Ohms
<b>Max Operating Temperature</b>	80 °C		
<b>Weight</b>	48.0 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<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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Date: 12/14/2021