

**UltraTEC™ UTX Series Thermoelectric Cooler**

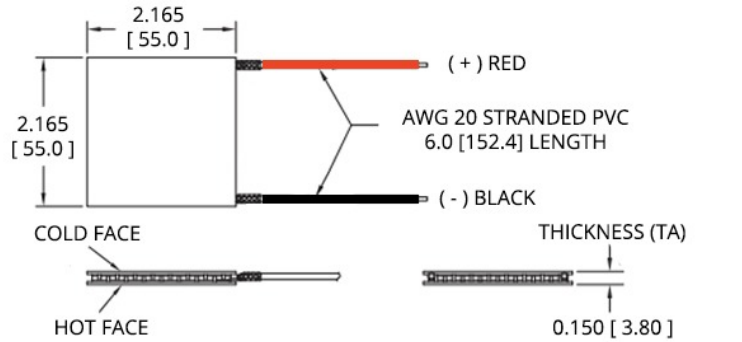
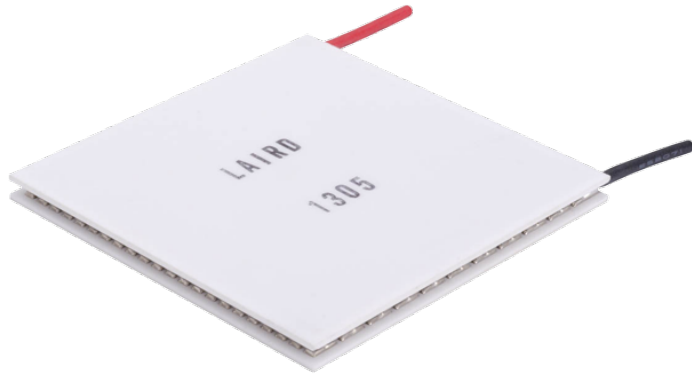
The UTX8-24-F1-5555-TA-W6 is a high-performance thermoelectric cooler that is assembled with advanced thermoelectric materials and can boost cooling capacity by up to 10%. The UltraTEC UTX Series features a higher thermal insulating barrier when compared to standard materials creating a maximum temperature 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

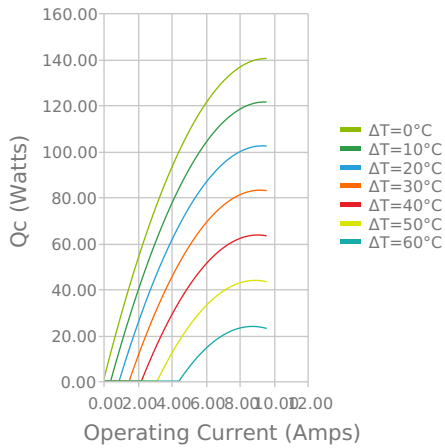


Ceramic Material: Alumina ( $Al_2O_3$ )  
Solder Construction: 138°C, Bismuth Tin (BiSn)

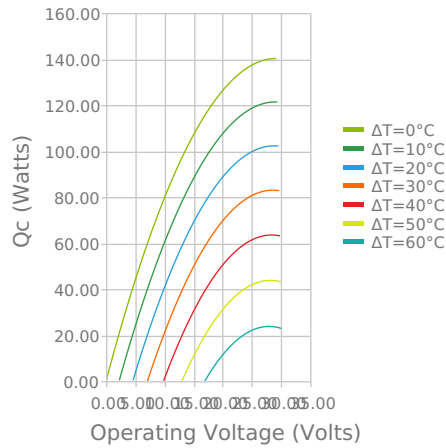
INCHES [ MM ]

**ELECTRICAL AND THERMAL PERFORMANCE**

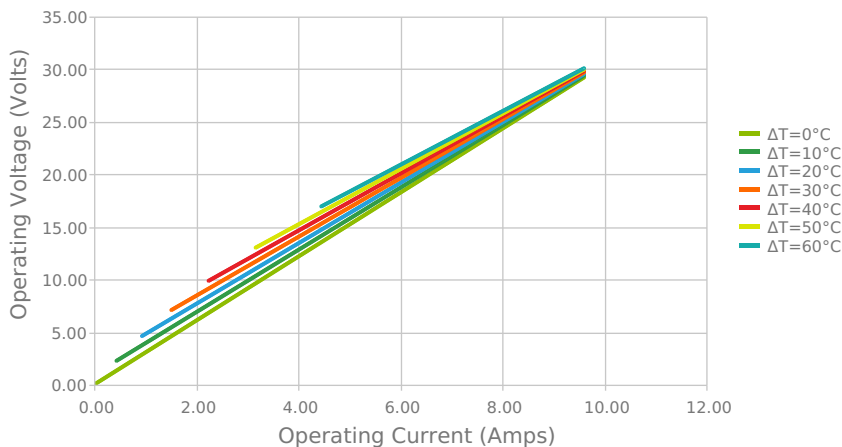
Heat Pumped at Cold Side  
 $T_{hot} = 27\text{ }^\circ\text{C}$



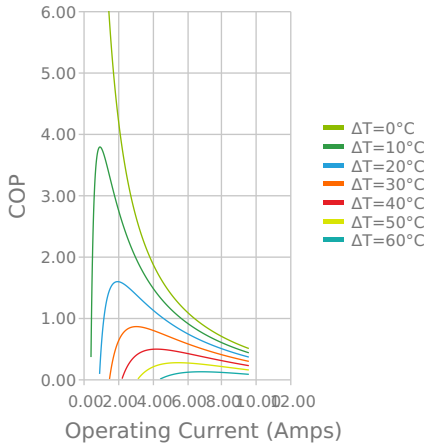
Heat Pumped at Cold Side  
 $T_{hot} = 27\text{ }^\circ\text{C}$



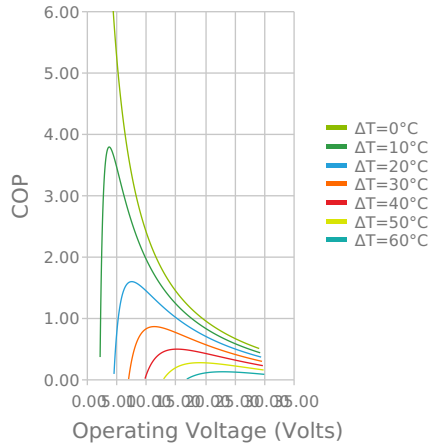
Current vs Voltage (I vs V)  
 $T_{hot} = 27\text{ }^\circ\text{C}$



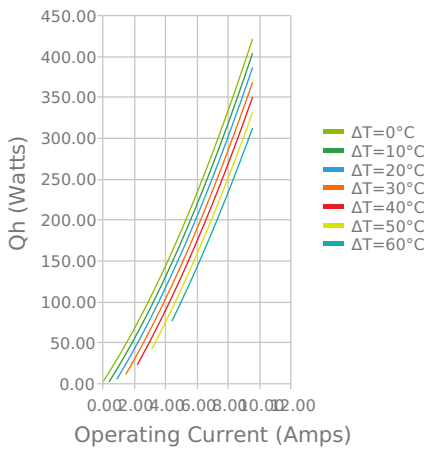
Coefficient of Performance (COP = Qc/Pin)  
 Thot = 27 °C



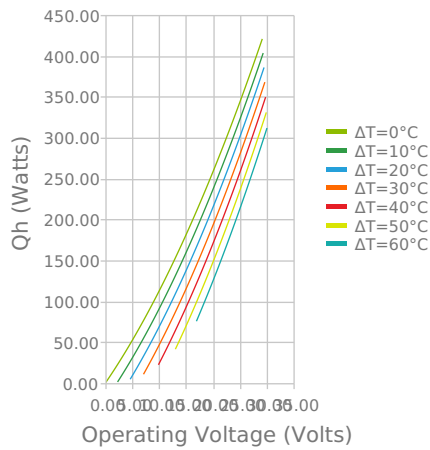
Coefficient of Performance (COP = Qc/Pin)  
 Thot = 27 °C



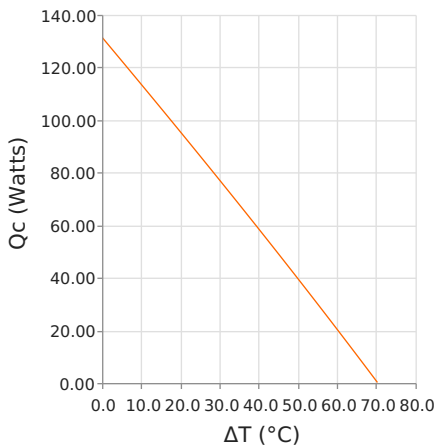
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)  
 Thot = 27 °C



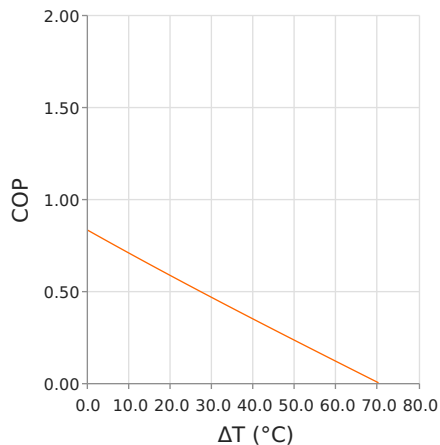
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)  
 Thot = 27 °C



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
<b>Qcmax (<math>\Delta T = 0</math>)</b>	140.2 Watts	144.1 Watts	150.9 Watts
<b><math>\Delta T_{max}</math> (<math>Q_c = 0</math>)</b>	71.7°C	74.8°C	80.4°C
<b>I<sub>max</sub> (I @ <math>\Delta T_{max}</math>)</b>	8.6 Amps	8.5 Amps	8.4 Amps
<b>V<sub>max</sub> (V @ <math>\Delta T_{max}</math>)</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 ± 0.001 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
	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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