# UltraTEC™ UTX Series UTX8-12-F2-2525-TA-EP-W6
# MFG Part Number: 387004708

## UltraTEC™ UTX Series Thermoelectric Cooler

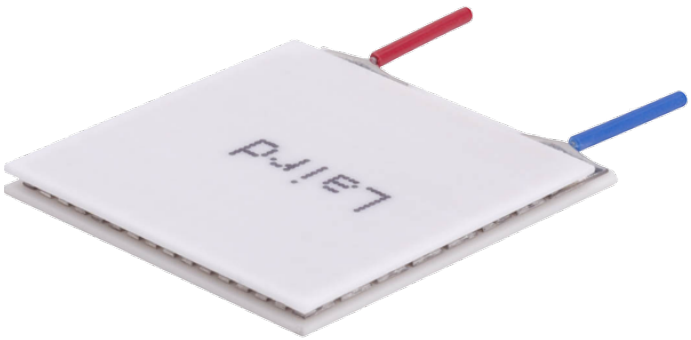
The UTX8-12-F2-2525-TA-EP-W6 is a high-performance thermoelectric cooler that is assembled with advanced thermoelectric materials and can boost cooling capacity by up to 10%. The UltraTEC UTX Series features a higher thermal insulating barrier when compared to standard materials creating a maximum temperature differential (ΔT) of 71.7 °C at Qc = 0. It has a maximum Qc of 68.5 Watts when ΔT = 0.

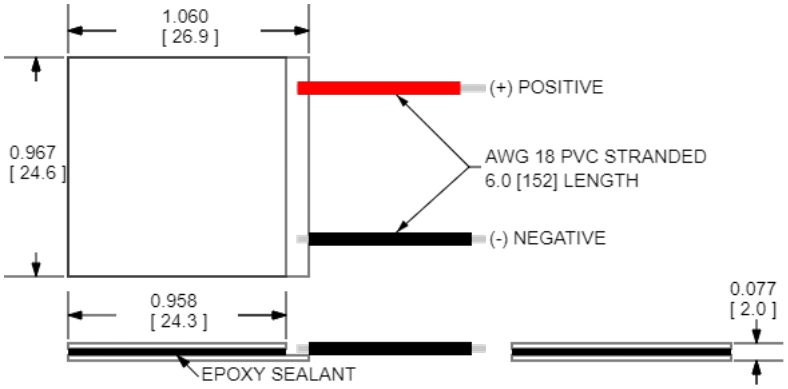
## Features

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

## Applications

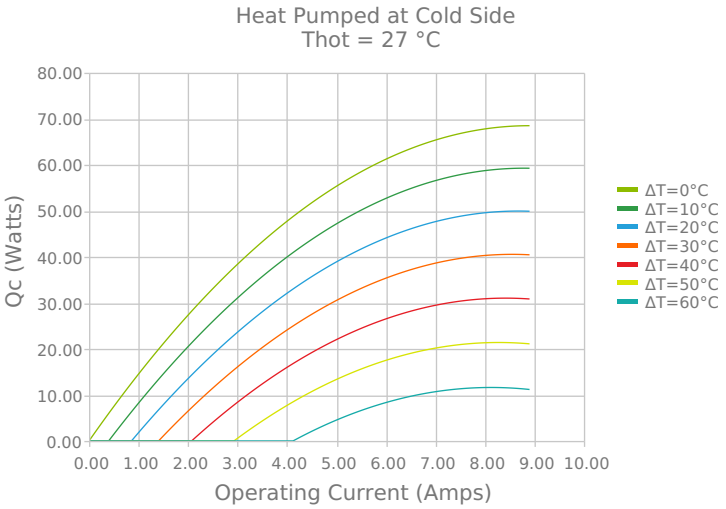
- Spot Cooling for Industrial Lasers & Optics
- Thermoelectric Cooling for Projection Lasers

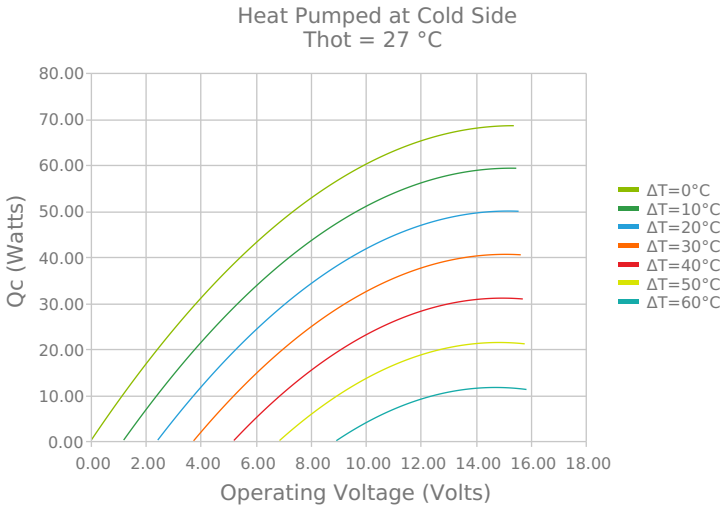


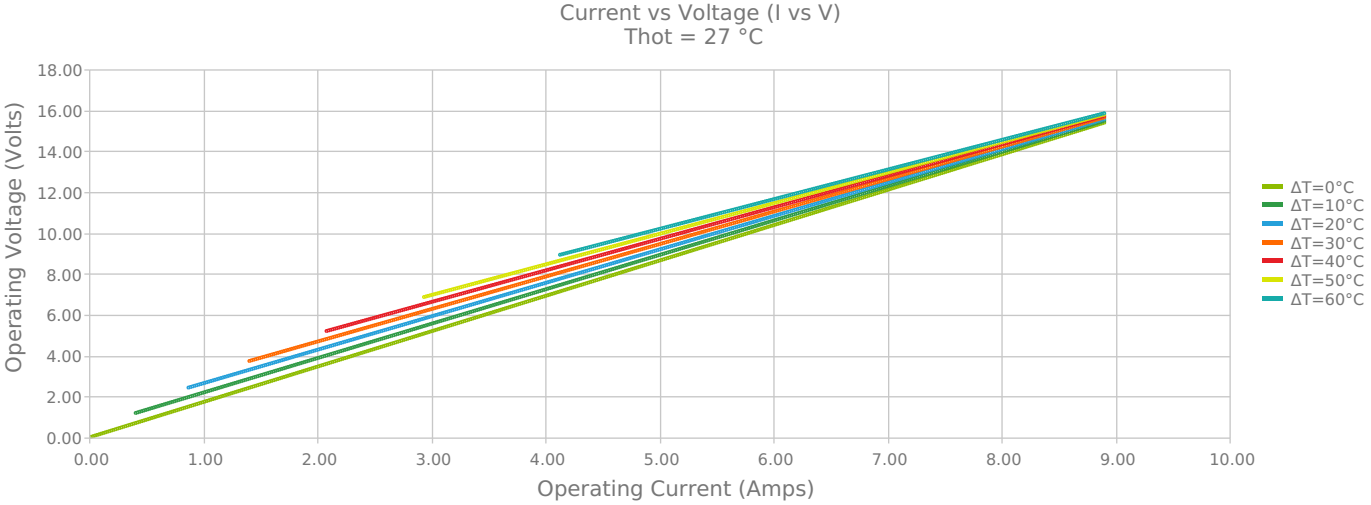



CERAMIC MATERIAL: $Al_2O_3$
SOLDER CONSTRUCTION: 138°C, BiSn
INCHES [ MM ]
Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

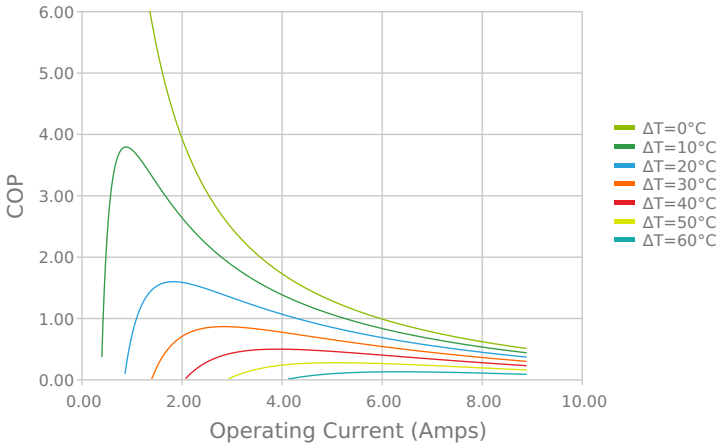
## ELECTRICAL AND THERMAL PERFORMANCE



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

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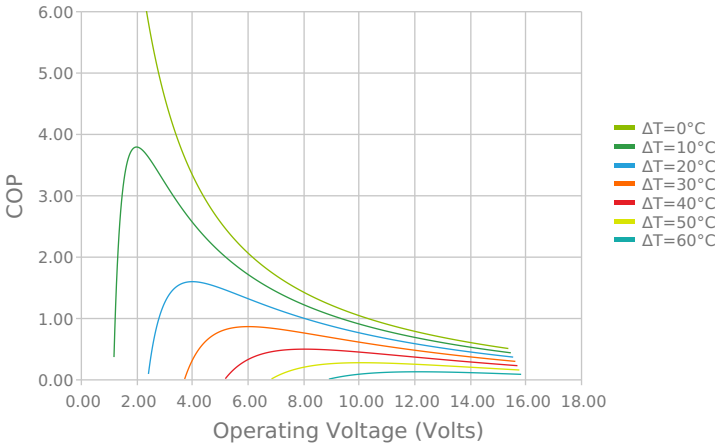
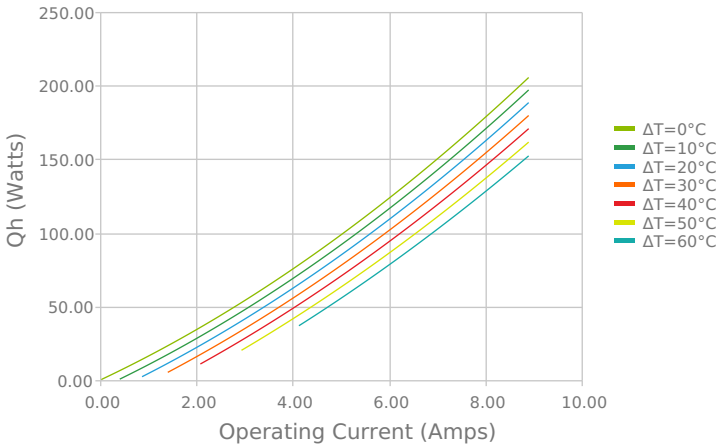



Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 27 °C

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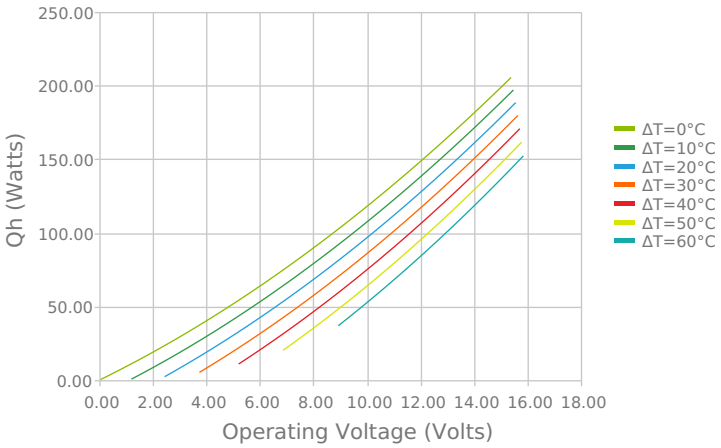
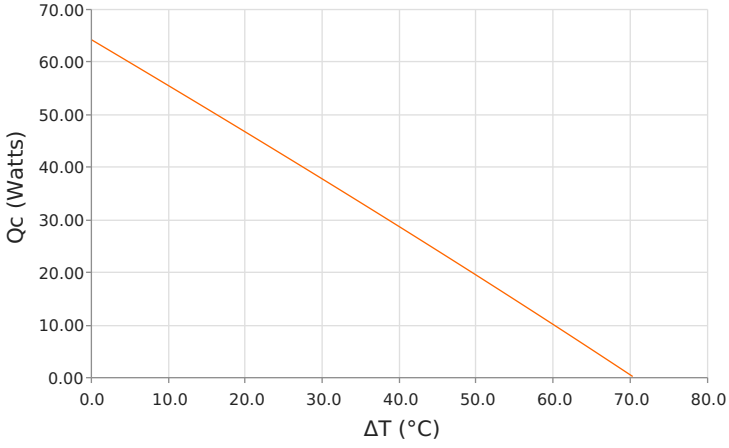
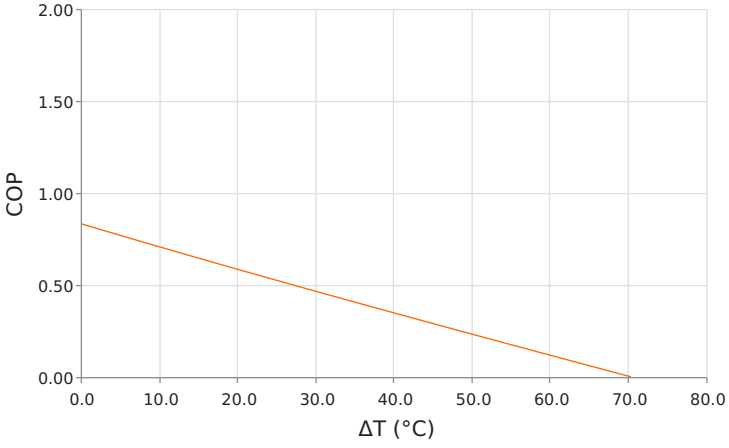



Heat Pumped at Cold Side (Qc)
Thot = 27 °C | Current = 6.7 Amps




Coefficient of Performance (COP = Qc/Pin)
Thot = 27 °C | Current = 6.7 Amps



## SPECIFICATIONS*

| Hot Side Temperature | 27.0 °C | 35.0 °C | 50.0 °C |
|---|---|---|---|
| Qcmax (ΔT = 0) | 68.5 Watts | 70.4 Watts | 73.7 Watts |
| ΔTmax (Qc = 0) | 71.7°C | 74.8°C | 80.4°C |
| Imax (I @ ΔTmax) | 7.9 Amps | 7.9 Amps | 7.8 Amps |
| Vmax (V @ ΔTmax) | 14.6 Volts | 15.1 Volts | 16.2 Volts |
| Module Resistance | 1.73 Ohms | 1.80 Ohms | 1.95 Ohms |
| Max Operating Temperature | 80 °C | | |
| Weight | 7.0 gram(s) | | |

* Specifications reflect thermoelectric coefficients updated March 2020

## FINISHING OPTIONS

| Suffix | Thickness | Flatness / Parallelism | Hot Face | Cold Face | Lead Length |
|---|---|---|---|---|---|
| TA | 1.956 ±0.025 mm<br>0.077 ± 0.0010 in | 0.025 mm / 0.025 mm<br>0.001 in / 0.001 in | Lapped | Lapped | 152.4 mm<br>6.00 in |

## SEALING OPTIONS

| Suffix | Sealant | Color | Temp Range | Description |
|---|---|---|---|---|
| EP | Epoxy | Black | -55 to 150°C | Low density syntactic foam epoxy encapsulant |

## NOTES

1. Max operating temperature: 80°C
2. Do not exceed Imax or Vmax when operating module
3. Reference assembly guidelines for recommended installation
4. Recommended to be used with a liquid heat exchanger on the hot side



Date: 06/01/2021