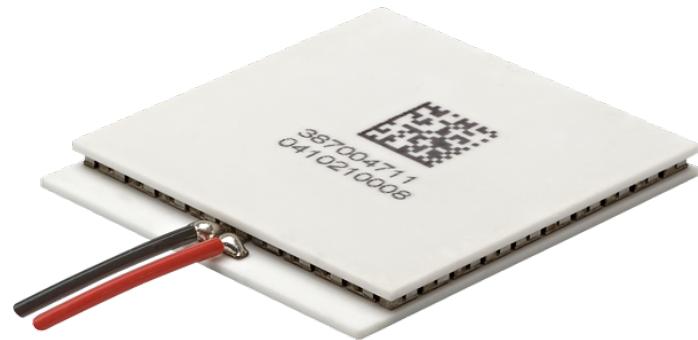


UltraTEC™ UTX Series Thermoelectric Cooler

The UTX15-200-F2-4040-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 $Q_c = 0$. It has a maximum Q_c of 207.6 Watts when $\Delta T = 0$.

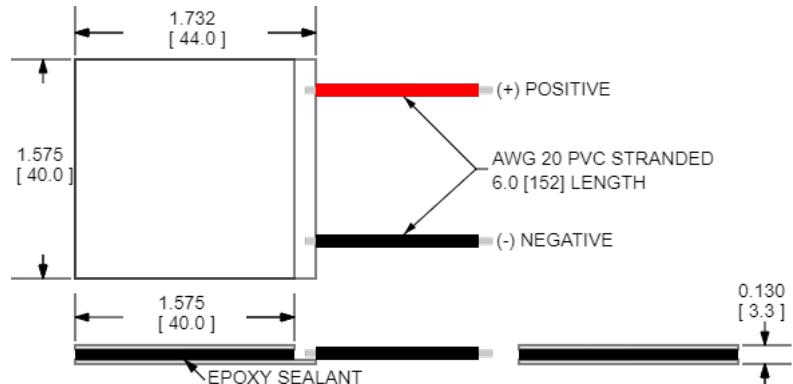


Features

- 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

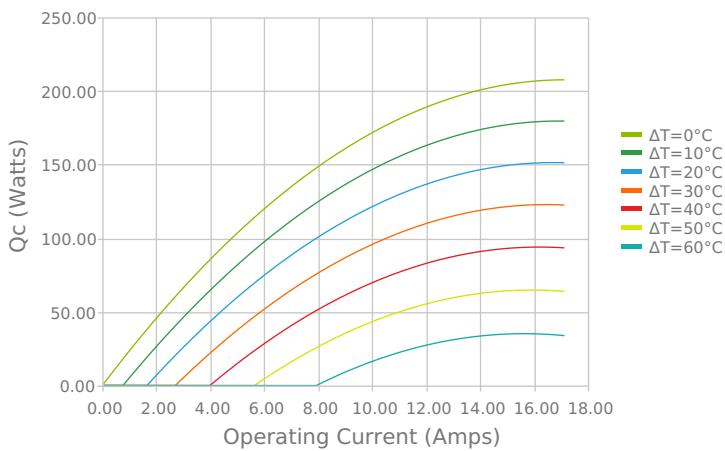
SOLDER CONSTRUCTION: 138°C, BiSn

INCHES [MM]

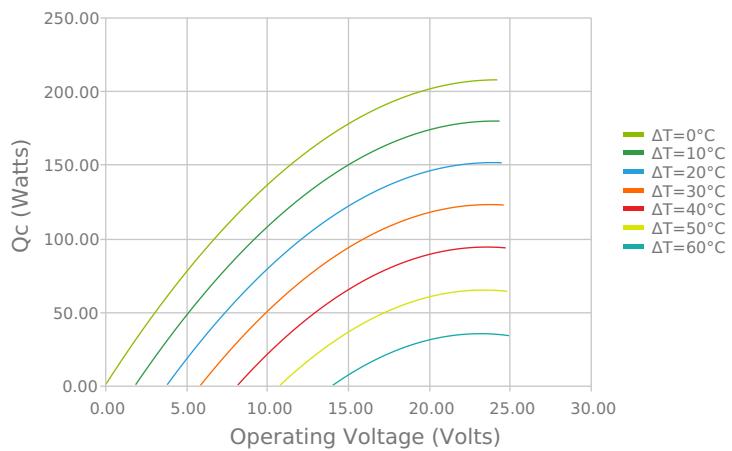
Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

ELECTRICAL AND THERMAL PERFORMANCE

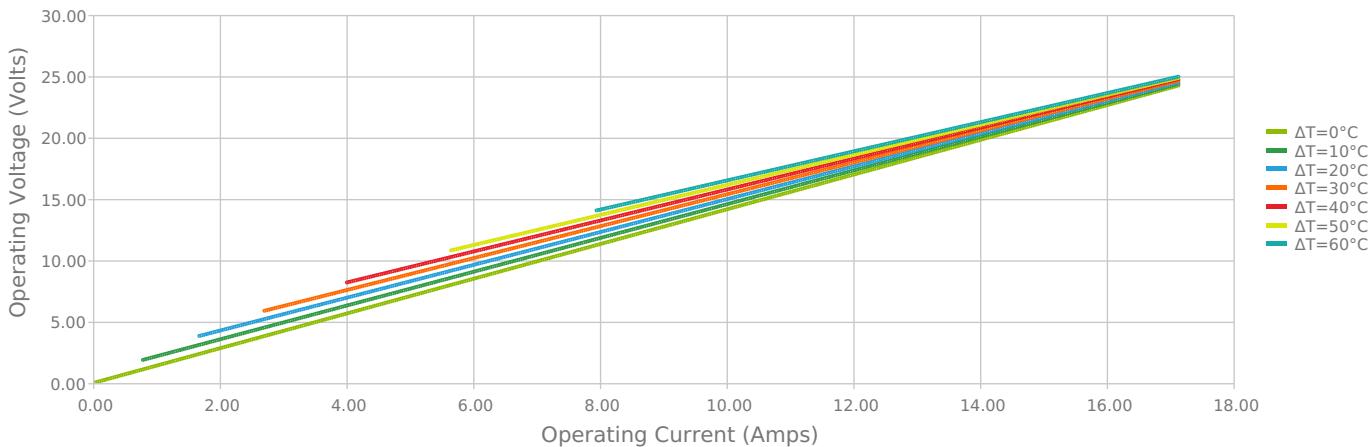
Heat Pumped at Cold Side
 $T_{\text{hot}} = 27^\circ\text{C}$

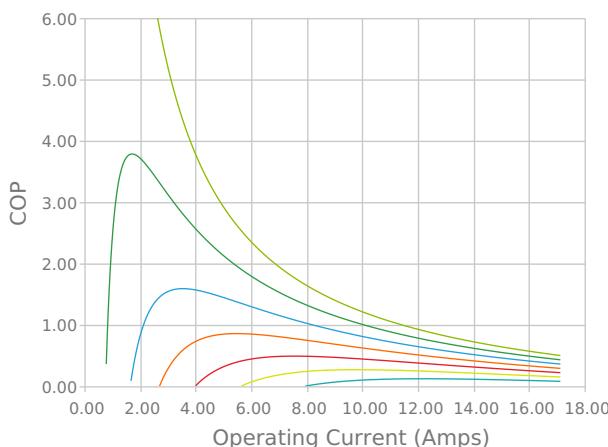
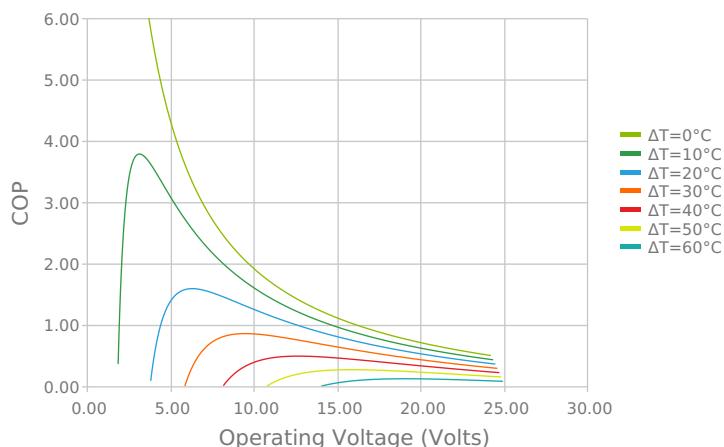
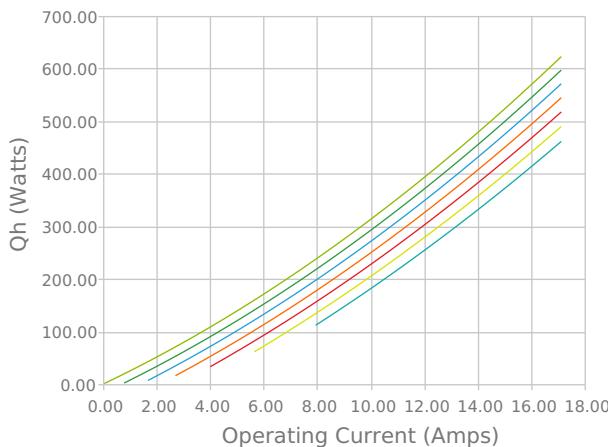
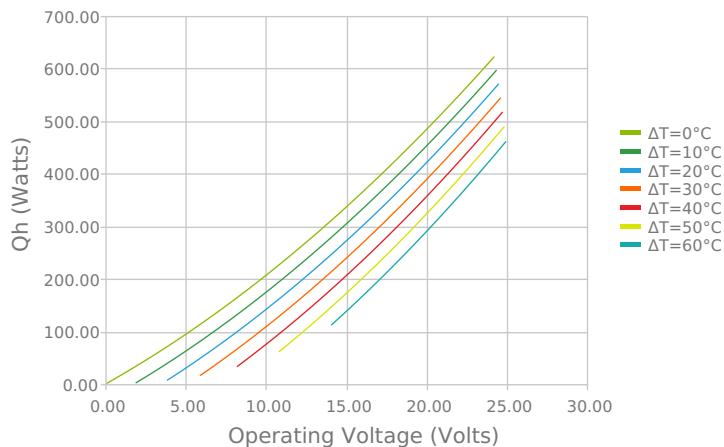
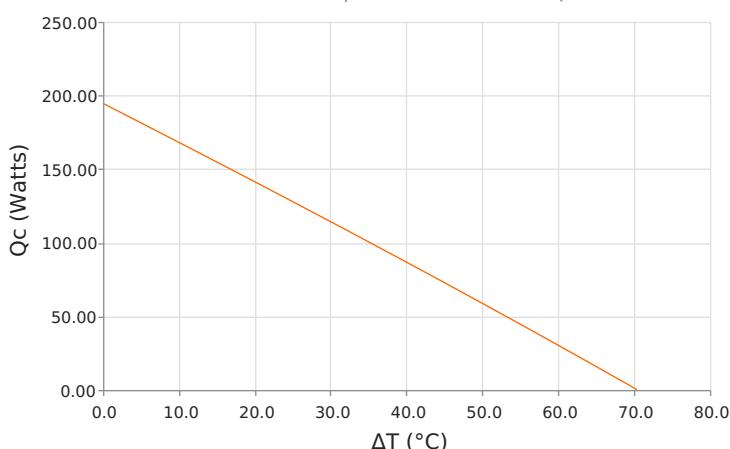
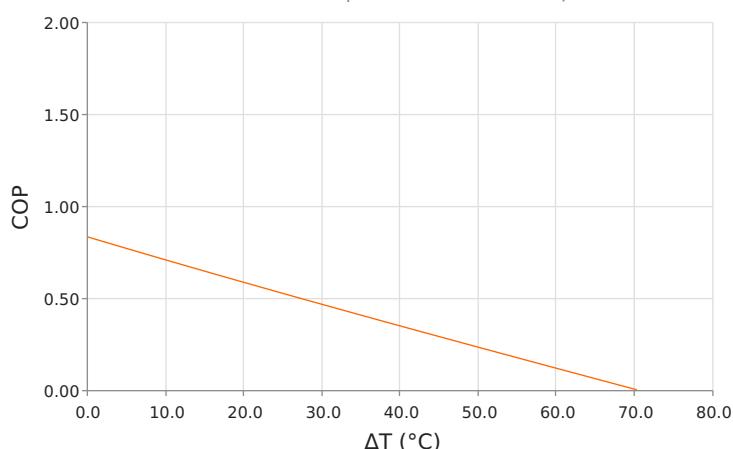


Heat Pumped at Cold Side
 $T_{\text{hot}} = 27^\circ\text{C}$



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



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

 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 = 12.8 Amps

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


THERMAL
SYSTEMS

UltraTEC™ UTX Series UTX15-200-F2-4040-TA-EP-W6

MFG Part Number: 387004715

SPECIFICATIONS*

| | 27.0 °C | 35.0 °C | 50.0 °C |
|---|--------------|-------------|-------------|
| Qcmax (ΔT = 0) | 207.6 Watts | 213.4 Watts | 223.4 Watts |
| ΔTmax (Qc = 0) | 71.7°C | 74.8°C | 80.4°C |
| I_{max} (I @ ΔT_{max}) | 15.3 Amps | 15.2 Amps | 14.9 Amps |
| V_{max} (V @ ΔT_{max}) | 22.9 Volts | 23.8 Volts | 25.5 Volts |
| Module Resistance | 1.41 Ohms | 1.48 Ohms | 1.59 Ohms |
| Max Operating Temperature | 80 °C | | |
| Weight | 36.0 gram(s) | | |

* Specifications reflect thermoelectric coefficients updated March 2020

FINISHING OPTIONS

| Suffix | Thickness | Flatness / Parallelism | Hot Face | Cold Face | Lead Length |
|--------|---------------------------------------|--|----------|-----------|---------------------|
| TA | 3.300 ± 0.025 mm 0.130 ± 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 |
|--------|---------|-------|--------------|--|
| EP | Epoxy | Black | -55 to 150°C | Low density syntactic foam epoxy encapsulant |

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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Date: 12/14/2021