

UltraTEC™ UTX Series Thermoelectric Cooler

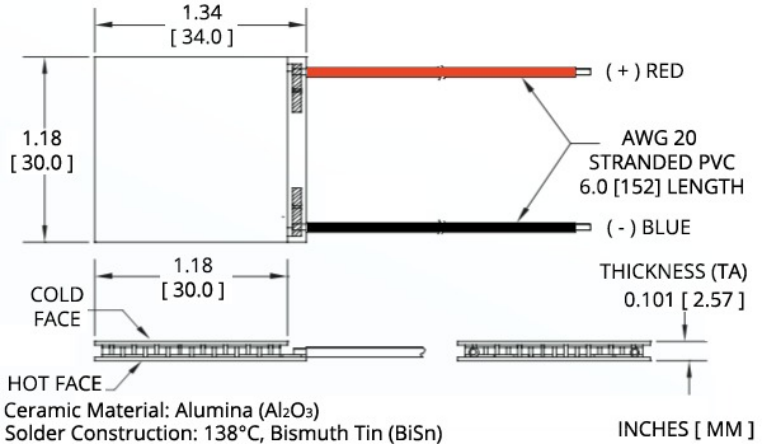
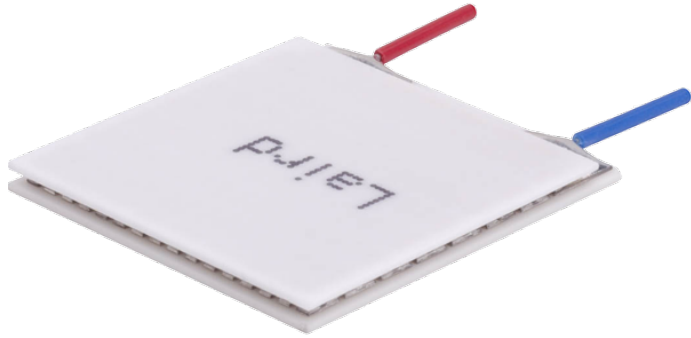
The UTX8-12-F2-3030-TA-W6 is a high-performance thermoelectric cooler that is assembled with advanced thermoelectric materials and can boost cooling capacity by up to 10%. The UltraTEC UTX Series features a higher thermal insulating barrier when compared to standard materials creating a maximum temperature differential (ΔT) of 71.7 °C at $Q_c = 0$. It has a maximum Q_c of 68.5 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

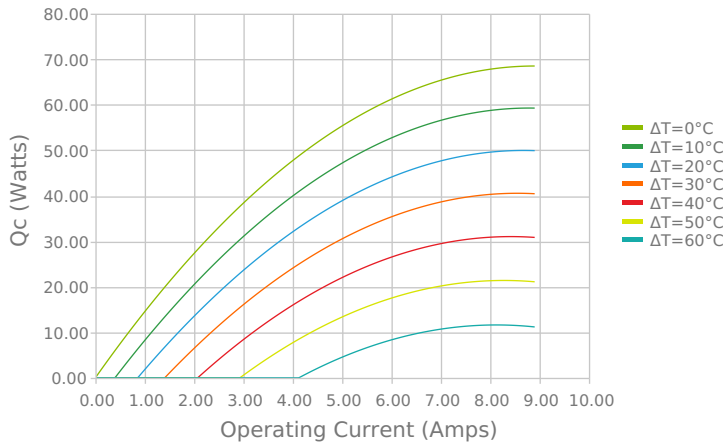
Applications

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

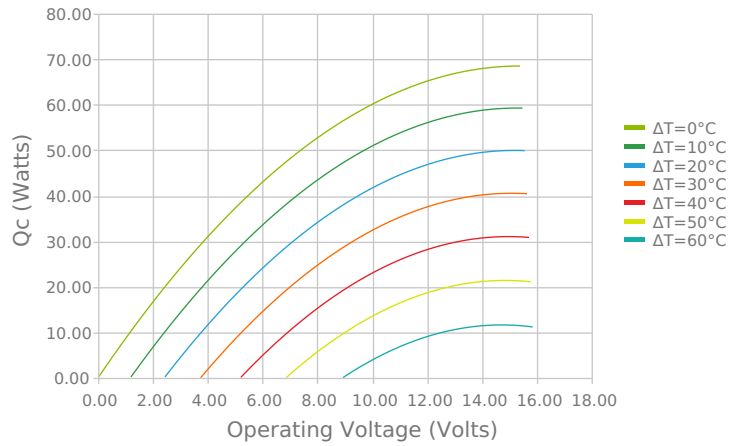


ELECTRICAL AND THERMAL PERFORMANCE

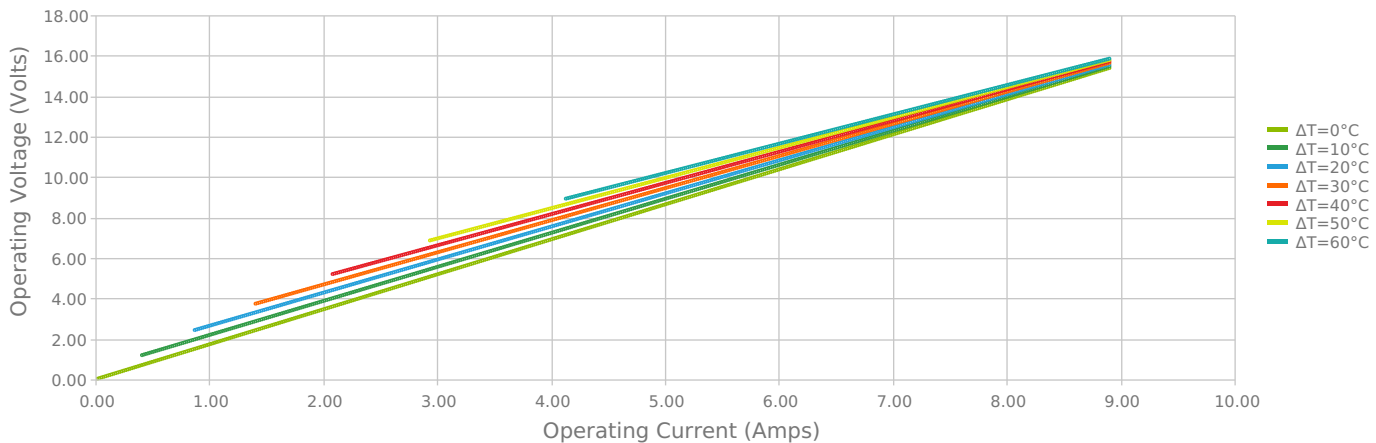
Heat Pumped at Cold Side
 $T_{hot} = 27\text{ °C}$



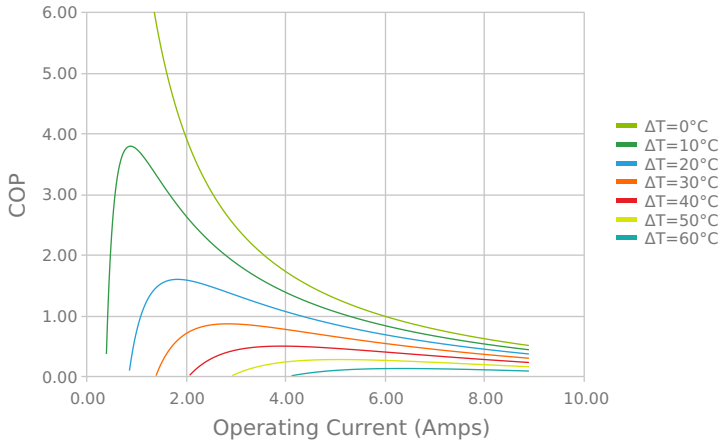
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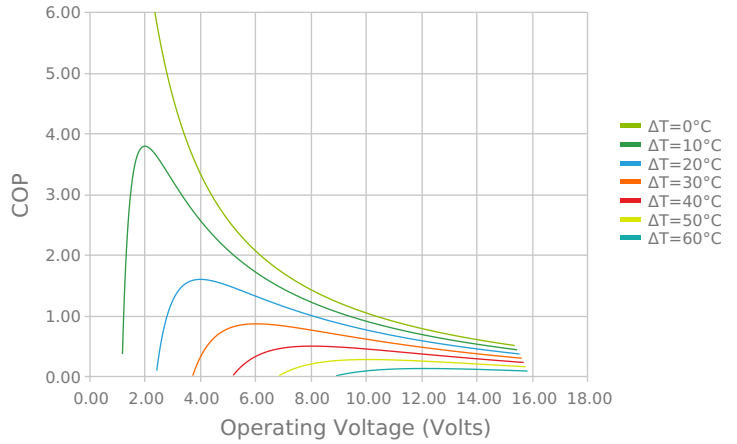
Current vs Voltage (I vs V)
 $T_{hot} = 27\text{ °C}$



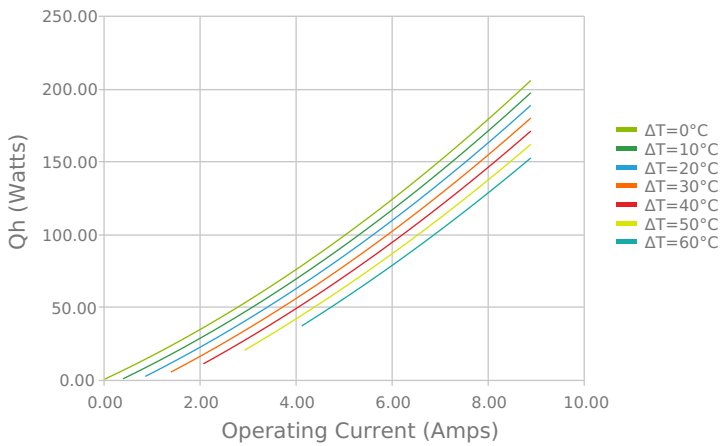
Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C



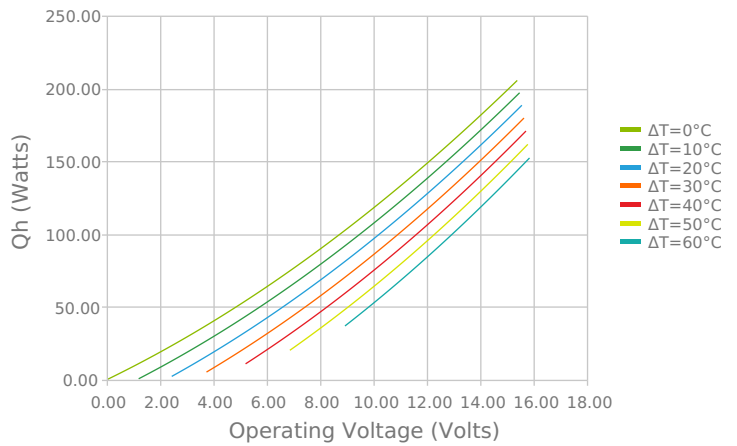
Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C



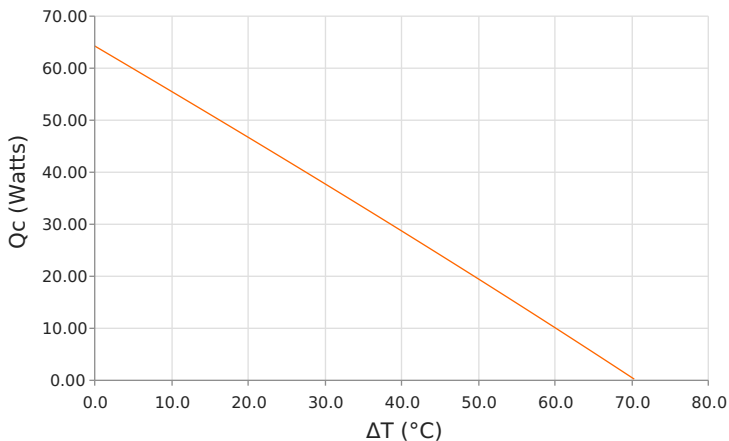
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 27 °C



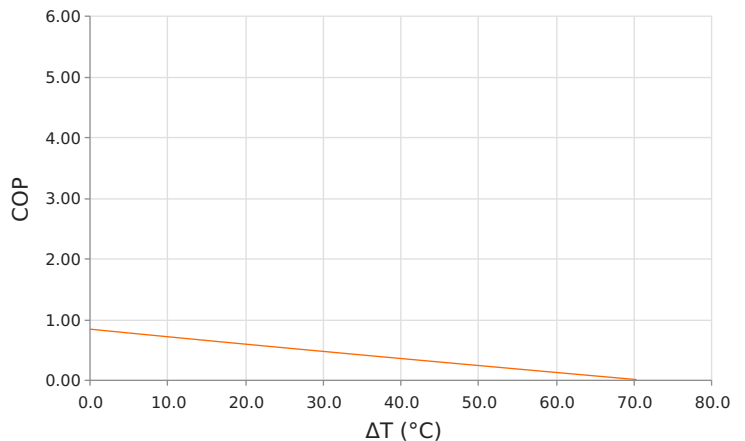
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 27 °C



Heat Pumped at Cold Side (Qc)
 Thot = 27 °C | Current = 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 ($\Delta T = 0$) | 68.5 Watts | 70.4 Watts | 73.7 Watts |
| ΔT_{max} ($Q_c = 0$) | 71.7°C | 74.8°C | 80.4°C |
| I_{max} (I @ ΔT_{max}) | 7.9 Amps | 7.9 Amps | 7.8 Amps |
| V_{max} (V @ ΔT_{max}) | 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 | 11.0 gram(s) | | |

* Specifications reflect thermoelectric coefficients updated March 2020

FINISHING OPTIONS

| Suffix | Thickness | Flatness / Parallelism | Hot Face | Cold Face | Lead Length |
|--------|-------------------------------------|--|----------|-----------|---------------------|
| TA | 2.565 ±0.025 mm 0.101 ± 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_{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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