

UltraTEC™ UT Series Thermoelectric Cooler

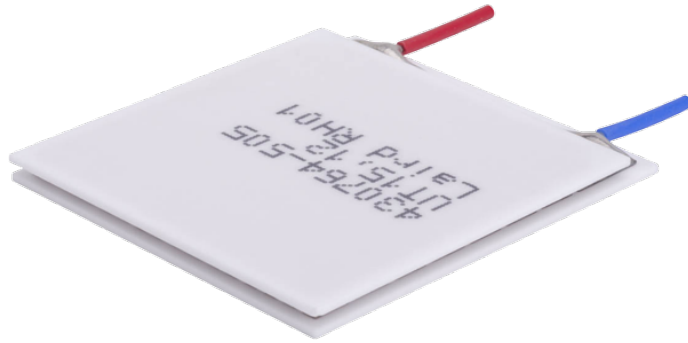
Note: This product is not recommended for new designs.

This product series has been replaced with the UltraTEC UTX Series product offering.

The recommended replacement is:

MFG Part Number: 387004684

Description: UTX15-12-F2-4040-TB-RT-W10

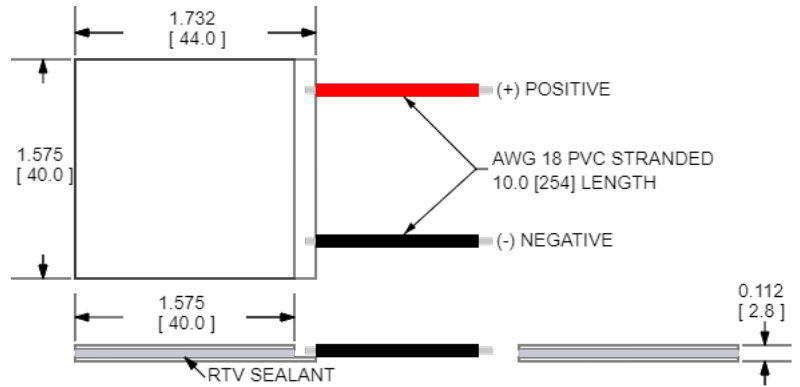


Features

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

Applications

- Thermoelectric Coolers and Assemblies for Medical Applications
- Thermoelectric Coolers for Handheld Cosmetic Lasers
- Industrial Laser Cooling
- Peltier Cooling for Digital Light Processors



CERAMIC MATERIAL: Al₂O₃

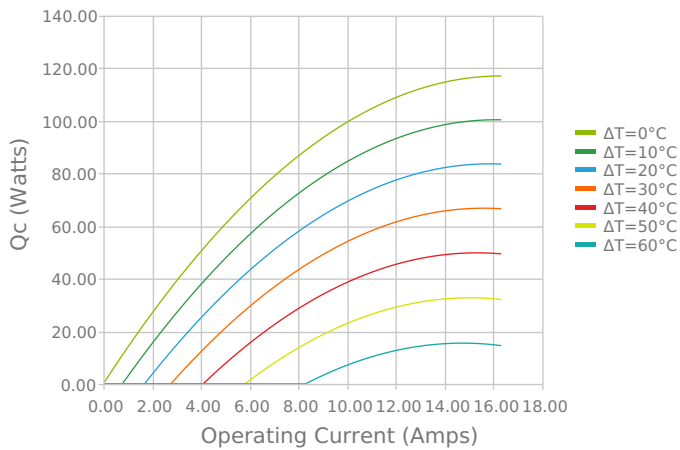
SOLDER CONSTRUCTION: 138°C, BiSn

INCHES [MM]

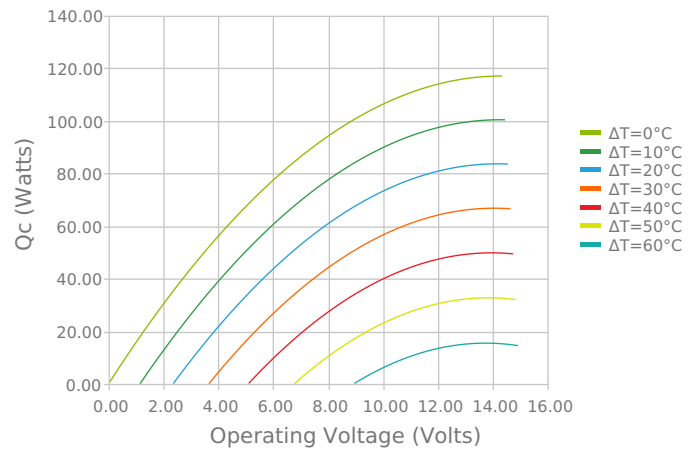
Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

ELECTRICAL AND THERMAL PERFORMANCE

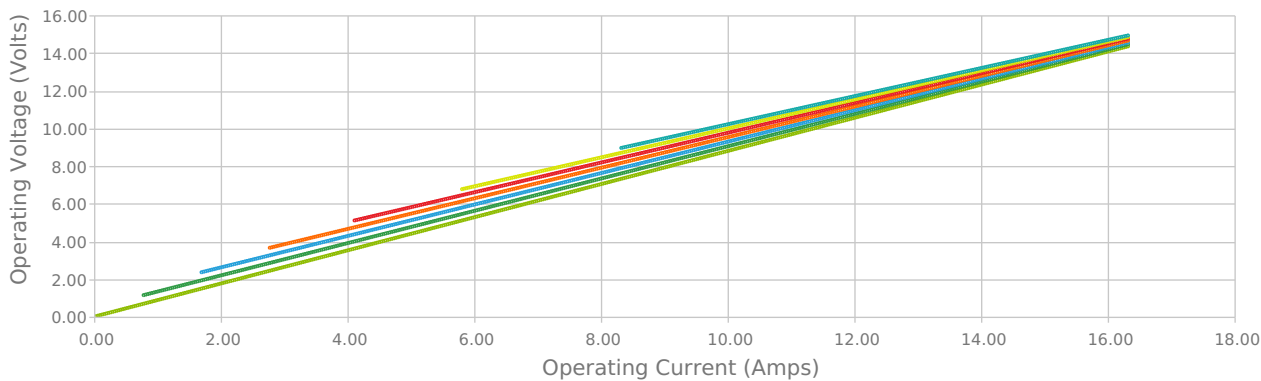
Heat Pumped at Cold Side
Thot = 27 °C



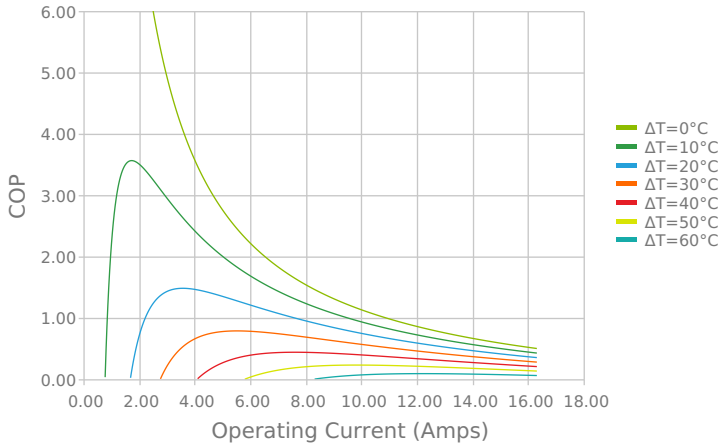
Heat Pumped at Cold Side
Thot = 27 °C



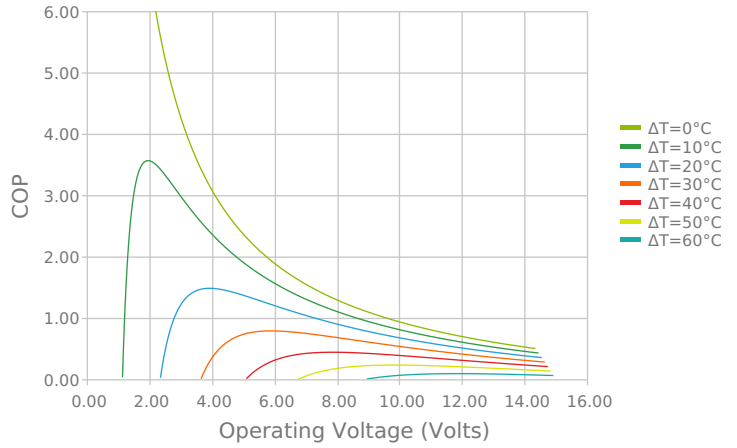
Current vs Voltage (I vs V)
Thot = 27 °C



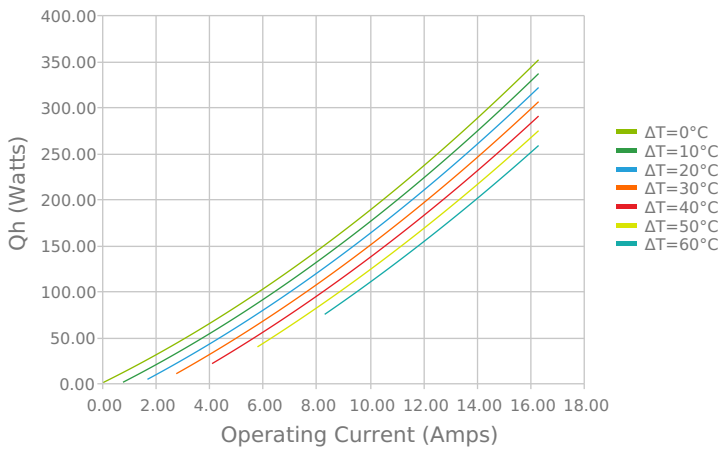
Coefficient of Performance (COP = Qc/Pin)
Thot = 27 °C



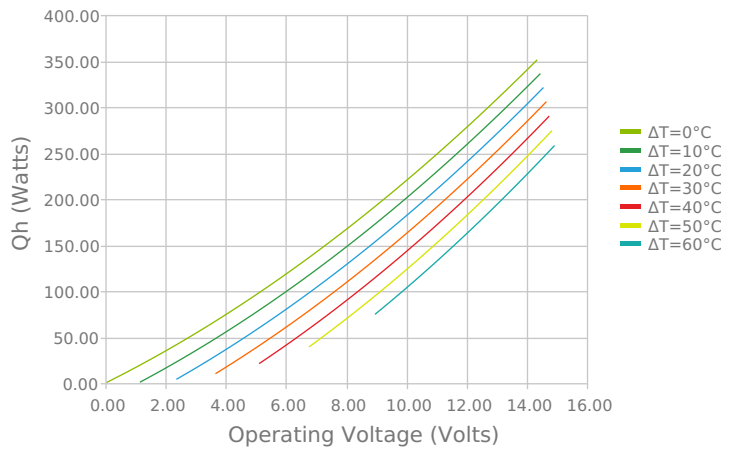
Coefficient of Performance (COP = Qc/Pin)
Thot = 27 °C



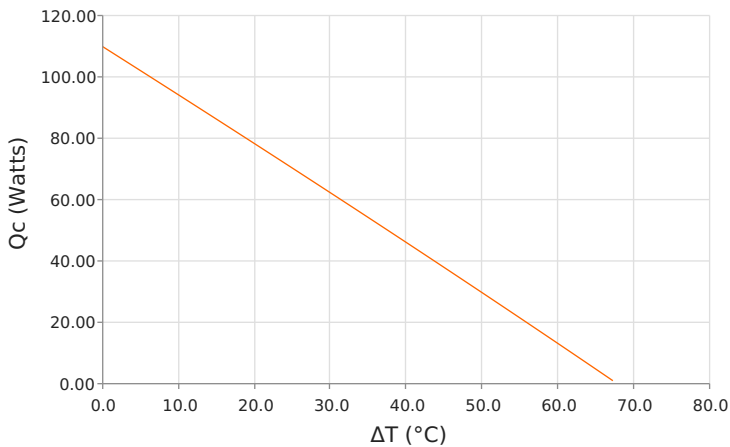
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 27 °C



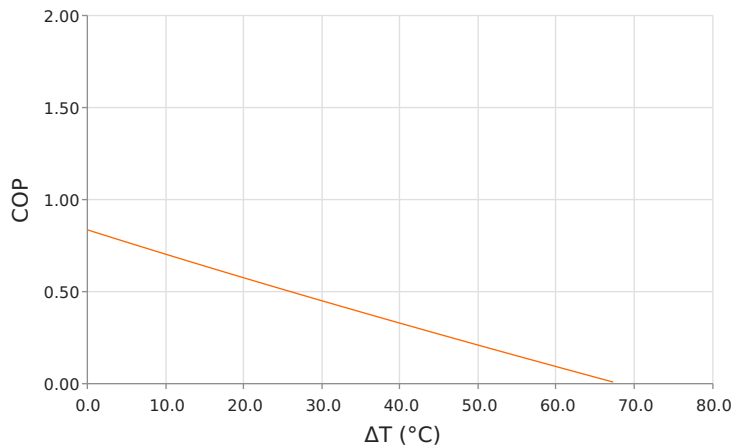
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 27 °C



Heat Pumped at Cold Side (Qc)
Thot = 27 °C | Current = 12.2 Amps



Coefficient of Performance (COP = Qc/Pin)
Thot = 27 °C | Current = 12.2 Amps



SPECIFICATIONS*

| Hot Side Temperature | 27.0 °C | 35.0 °C | 50.0 °C |
|---|--------------|-------------|-------------|
| Qcmax ($\Delta T = 0$) | 117.1 Watts | 120.7 Watts | 126.9 Watts |
| ΔT_{max} ($Q_c = 0$) | 68.9°C | 71.8°C | 77.0°C |
| I_{max} (I @ ΔT_{max}) | 14.4 Amps | 14.4 Amps | 14.2 Amps |
| V_{max} (V @ ΔT_{max}) | 13.6 Volts | 14.2 Volts | 15.1 Volts |
| Module Resistance | 0.88 Ohms | 0.92 Ohms | 0.98 Ohms |
| Max Operating Temperature | 80 °C | | |
| Weight | 20.0 gram(s) | | |

* Specifications reflect thermoelectric coefficients updated March 2020

FINISHING OPTIONS

| Suffix | Thickness | Flatness / Parallelism | Hot Face | Cold Face | Lead Length |
|--------|--------------------------------------|--|----------|-----------|---------------------|
| TB | 2.845 ±0.013 mm 0.112 ± 0.0005 in | 0.013 mm / 0.013 mm 0.0005 in / 0.0005 in | Lapped | Lapped | 152.4 mm 6.00 in |

SEALING OPTIONS

| Suffix | Sealant | Color | Temp Range | Description |
|--------|---------|----------------------|--------------|----------------------------------|
| RT | RTV | Translucent or White | -60 to 204°C | Non-corrosive, silicone adhesive |

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

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