



The UltraTEC™ UTX Series is a high-performance thermoelectric cooler for demanding applications. The module is assembled with next generation thermoelectric material that has higher cooling capacity, temperature differential and efficiency than standard semiconductor materials. The UltraTEC™ UTX Series uses a large number of N and P couples to generate a higher heat flux density than standard thermoelectric coolers.

This product often uses a liquid heat exchanger on the hot side to dissipate heat generated by a cooler. The series is available in multiple configurations and is ideal for spot cooling applications that require higher cooling capacities with limited surface area.

FEATURES

- High heat pump density
- Precise temperature control
- Reliable Solid-State Operation
- No sound or vibration
- DC Operation
- RoHS Compliant

APPLICATIONS

- Industrial Lasers
- Analytical Instrumentation
- Medical Diagnostics
- Laser Projectors

*Specifications reflect thermoelectric coefficients updated December 2019

| TECHNICAL SPECIFICATIONS* | |
|---------------------------|------|
| Hot Side Temperature (°C) | 27 |
| Qmax (W) | 67 |
| Delta Tmax (°C) | 72 |
| I _{max} (Amps) | 7.9 |
| V _{max} (Volts) | 14.6 |
| Module Resistance (Ohms) | 1.64 |

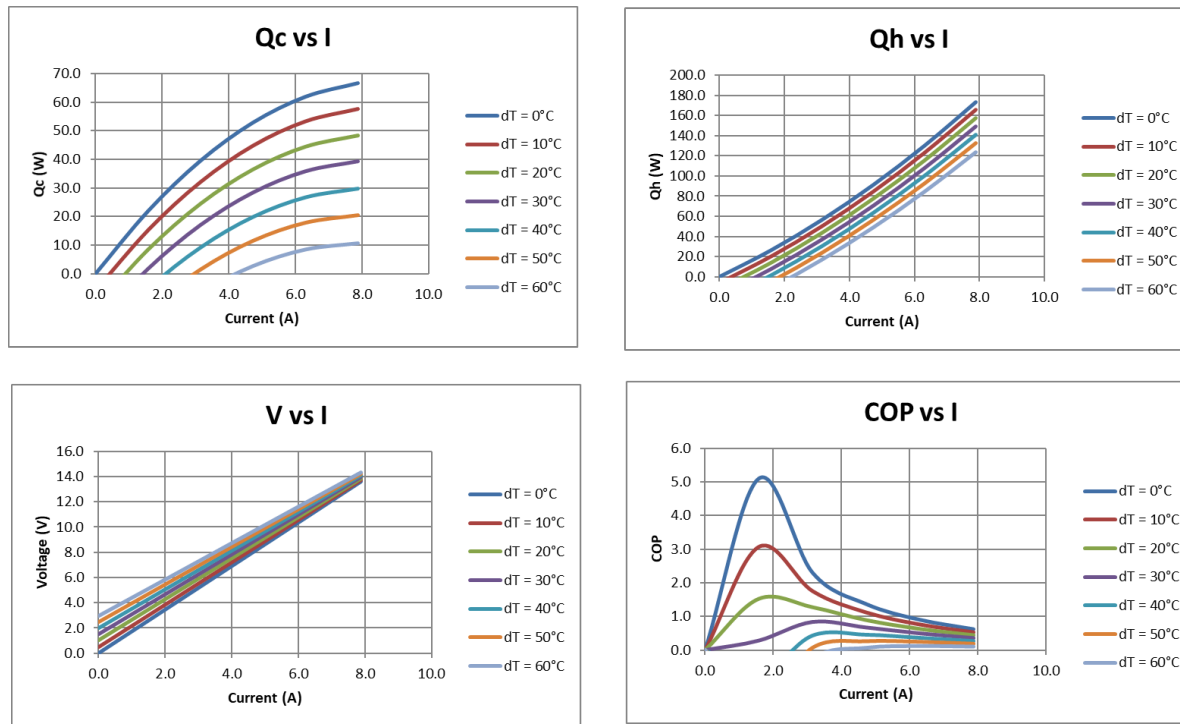
LAPPING OPTIONS

| SUFFIX | THICKNESS (PRIOR TO THINNING) | FLATNESS & PARALLELISM | HOT FACE | COLD FACE | LEAD LENGTH |
|--------|-------------------------------|------------------------|----------|-----------|-------------|
| 11 | 0.077" ± 0.015" | 0.002" / 0.0035" | Lapped | Lapped | 6.0" |
| TA | 0.077" ± 0.001" | 0.001" / 0.001" | Lapped | Lapped | 6.0" |
| TB | 0.077" ± 0.0005" | 0.0005" / 0.0005" | Lapped | Lapped | 6.0" |

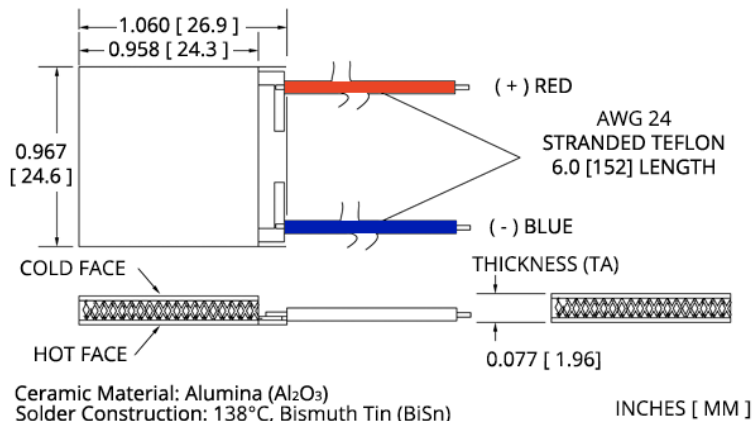
SEALING OPTIONS

| SUFFIX | SEALANT | COLOR | TEMPERATURE RANGE | DESCRIPTION |
|--------|---------|-------|-------------------|--|
| RT | RTV | White | -60 to +204 °C | Non-corrosive, silicone adhesive sealant |
| EP | Epoxy | Black | -55 to +130 °C | Low density syntactic foam epoxy encapsulant |

PERFORMANCE CURVES AT $T_h = 27^\circ$



MECHANICAL DRAWINGS



Ceramic material 96%
Alumina ceramics
Solder construction: 138°C BiSn

Operating tips

- Max operating temperature: 80°C
- Do not exceed I_{max} or V_{max} when operating module
- Reference assembly guidelines for recommended installation



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